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## COLMAN'S RURAL WORLD.

NORMAN J. COLMAN,  
LEVI CHURCH,  
EDITORS.

Published every Wednesday, in Chemical building, corner of Eighth and Olive streets, St. Louis, Mo., at one dollar per year. Eastern office, Chalmers D. Colman, 520 Temple Court, New York City. Advertisers will find the RURAL WORLD the best advertising medium of its class in the United States. Address all letters to COLMAN'S RURAL WORLD, Chemical Building, St. Louis, Mo.

To double the circulation of the RURAL WORLD annually is an ambition of the Publishers. It requires new subscribers to do this, and in order to secure them, every present subscriber is constituted an agent to assist in that effort. The price of the RURAL WORLD is one dollar per year, which is cheap, considering the quantity and quality of the paper used, but to accomplish our purpose we will allow every subscriber to send a new name with his own for one dollar, and he may add additional new names at fifty cents each, which is less than the actual cost of the paper. Renewals in no case will be received for less than one dollar unless accompanied by the name of a new subscriber.

### EDWARD A. FILLEY.

On Thursday, September 12, at North Haverhill, N. H., occurred the death of Edward A. Filley, whom, doubtless, many of our older readers remember as having been for many years identified with the St. Louis Fair. For a number of years he was superintendent of the cattle department, and in that capacity did much to popularize the St. Louis Fair and make it the greatest enterprise of its kind in the world.

Mr. Filley settled in St. Louis in 1847 and lived here until about ten years ago, when he returned to New Hampshire to spend his last days. He was 83 years and six months old at the time of his death.

### THE FARMERS' INSTITUTES.

On this page will be found the announcement of the opening series of farmers' institutes to be held this season by the Missouri State Board of Agriculture. We again urge RURAL WORLD readers to attend these institutes whenever possible. They are held at the expense of the state, and for the single purpose of aiding the farmers; but to accomplish this purpose farmers must want to be helped badly enough to induce them to attend the meetings.

Among the speakers our readers will note a familiar name, that of C. D. Lyon of Ohio. Mr. Lyon is one of that most numerous class of farmers, the 100-acre class, and the one that is in the greatest need of help and encouragement. He will be greatly pleased to make the personal acquaintance of those among our readers who will make themselves known to him at the meetings.

### THE FODDER CROP.

The reports regarding the fodder crop received at this office and those noted in our exchanges throughout the drouth-stricken section, attest that the largest acreage of corn will be cut this season that ever has gone on record. Now it is essential that the most careful attention be given to protecting this crop from rains and snow. Many farmers have purchased corn harvesters to facilitate the harvesting of the fodder crop and this expense will be absolutely useless if after the crop is put in the shock it is left to the elements to have its food value destroyed.

The money expended for the corn harvester will be a wise investment, proportionately as this crop is managed to give results as a food product. If the fodder has its feeding value lost by careless storing, the farmer might just as well have cut with a corn knife a few shocks of corn to be fed early and then let his cattle have the run of the stalk field. The corn harvester does help to care for the fodder crop more speedily and gives the farmer a chance to get the crop ready for storing in the best possible shape. The cutting of fodder with a knife is attended with so much that is positively disagreeable that farmers have neglected this part of the corn crop; now that lame arms and sore hands may be reduced to the minimum by the corn harvester, let this hitherto neglected crop have its true place in the farm feeding problem.

### SAVING SEED.

The drouth will have its effects felt until another season's crops are harvested. And this will be most evident in prices for seeds of all kinds, for there has been extraordinary demand for some varieties, because of much repainting, then again in the sowing of such crops the second time, in the hope of maturing late crops. The seed growing districts have also been to some extent sufferers from the drouth and the prospects, in

view of these facts, are that the ordinary supply will be limited. Now, let farmers give due heed to saving seed. Many garden seeds may yet be saved, as tomatoes, cucumbers, squashes and even lettuce and radish seeds from late maturing specimens.

Then, corn for seed should be selected as soon as possible. Go over the field and carefully pick out the good ears. Don't save any that are doubtful. When the corn is gathered for seed carefully store it.

Such foresight may save much expense and delay in the spring. If some of the seed saved is not thought to be a specially valuable variety, make a note to that effect on the label. It is not wise to try to remember such facts. The truth is, we don't remember them, not even the valuable varieties which some friend kindly gave us the autumn previous. This memorandum will enable us to discard the seed, if some better can be obtained, but some kind of seed is better than no seed. There never was a time when the seed box should have more care. Be sure to put it where the mice will not feed on its contents.

### MISSOURI FARMERS' INSTITUTES.

Editor RURAL WORLD: On Monday, September 23, we will begin our regular farmers' institute meetings at Bowling Green, Pike Co. The meetings for 1901 have been divided for convenience into five series. A list of the first series of meetings is found in the circular sent you under separate cover. We have assurance from most all of the places where meetings have been located of a good attendance, and I think we can promise the people a profitable meeting on account of the corps of lecturers that has been employed. We wish to extend to all of you readers who happen to be in reasonable distance of any of these meetings an invitation to attend and take part in the discussion. There is certainly a greater need for institute work this year on account of the general conditions following the drouth than there has ever been before, and by a united effort upon the part of farmers and the State Board of Agriculture that can be made the fruit of all the series of meetings that have ever been held.

GEO. B. ELLIS, Secretary.  
Columbia, Mo., Sept. 19, 1901.

### GOOD STOCK AND COUNTY FAIRS.

Editor RURAL WORLD: We are praying that the good Lord may send a gracious rain and other pestilence, to kill off all the scrubs in the South, save a very few in the very poorest county in each state to compare the improved stock with, just to convince the heretics who deny faith in pure breeds how sorry and contemptible such animals are.

We are also earnestly asking for a revival of the good old times when almost every county had its fair with sheep, swine, cattle and other products of the field and forest, farm and factory; where no high dancing, fortune wheels, or other fakes of the midway type could find a place. The whole country side then turned out to learn what their best stock and grain producers were doing, to see what manufacturers had to offer which would lighten labor, and lengthen life. It was an educational affair of the very highest character. People not only found out what the best kinds of stock and grains and implements were, but they also were taught much about the best methods in their production and went home dissatisfied with their old scrubs and scrub ways. This inspired farmers to emulate the successes of the prize winners. That agricultural community is in a bad way in which there is not a spirit of friendly rivalry, encouraging each to do his very best in the production of at least one of the many specialties in rural husbandry. There are those who claim farmers' institutes, fairs and the like are of but little if any practical use. But those fully conversant with the facts must concede that almost without exception, taking the world over, those sections which have the most of such things are notably ahead in general agricultural conditions, even as measured by such practical considerations as good buildings, fences, improved stock and large crops. Take England for instance, it is said there is not a week in the year, but that some poultry show or fair is in progress. As a natural consequence, when the rest of the earth wants the very finest specimens to be had English or Scotch breeders must be appealed to and quite naturally they set their own price. To a more limited extent the same may be said of various sections of the North and East as compared with Dixie. How long will it be so?

I take this opportunity to call the attention of fair managers to the results of investigations made by a Boston company in regard to admitting attractions foreign to a purely agricultural exhibit. Replies came from authorities of many exhibitions, large and small. The consensus of opinion was that such, especially if of doubtful character, detracted from interest in and attendance on the fair. Exhibits proper and in the long run, by alienating the very best class of citizens' support, worked great injury to the fair. I am glad to see Nashville take up the question of a State Fair. May its shadow never grow less.  
Russellville, Tenn. "MAPLEHURST."

### DROUTH LESSONS.

Editor RURAL WORLD: I think the drouth of this season will teach some people something. I do not believe it a good plan to rely on one kind of grain crop alone. I know of a fine hog breeder in this state who uses but little corn, and he makes as large pigs at same age as anyone in this country. There are no finer hogs raised in this country than in Canada, and they raise no corn there. A few years ago I saw a man sell as good wheat as is raised in this country at 35 cents per bushel, and buy corn at the same time at 40 cents per bushel to feed to his hogs. I told him I thought he was doing wrong, but he did not think so. We have fed hogs whole wheat by scattering it in a clean, dry place, by feeding dry in troughs, by soaking it, by feeding it dry when ground and by soaking and making a slop of it, and by cooking it. If a man never uses his brain to advantage and never experiments any in his vocation, he will never make much. His motto is: "My father and grandfather did so and so, and I will, too. They have done the thinking for me." A man who can never take any advanced ground in anything is on a losing plane. I have noticed several ways of planting Kaffir corn, and I think the best way is to take a corn planter and hand dropper, and drop six to ten grains in a hill about 20 inches apart in the row, the rows being three feet six or eight inches apart; then cultivate, as one does corn. Some say that the stalk will be coarse and stout and will not eat it. I don't care how you plant it, a beast will not eat the stalk unless nearly starved. Kaffir corn, Jerusalem corn and Milo maize are similar in character. Milo Maize turns down like broom corn.

I have watched the planting of cow peas and I believe the best way is to plant in rows. I think the Whippoorwill kind is best. They are great fertilizers. I have seen cattle, horses and poultry leave corn and other feed to eat the peas. I have eaten them myself when cooked, and have also eaten bread made of Kaffir corn. It tastes to me like wheat flour and Indian corn meal mixed, and is very crumbly.

If we had as poor land here as there is in some of the eastern states, we would take advantage of the dry weather crops such as Kaffir corn, Milo maize, alfalfa. If we were to haul out all of our manure, sow clover, cow peas, etc., and raise more root crops, we could double the amount of crops we make. I do not believe there are five acres of land in this country that could not be made to yield from 60 to 75 bushels of corn per acre in a good season if we treated it as they do land in the East. I saw a man a few years ago one mile east of Lamar, Mo., raise more than 75 bushels of corn per acre the second year he owned the farm, and the land adjoining did not produce ten bushels per acre, the same season and two years before that, the two farms were exactly alike in quality of soil. One man hauled out manure, the other did not. We wait for others to experiment and make money before we try to get out of the old rut we got into years ago. The Irish and German people have a hard time in their mother country, but come here, appreciate the advantage and get rich before our eyes; and we say: "He can make a living on a limestone rock." The easier time we have, the still easier time we want. It is amusing to hear some of the farmers look wise and talk in doleful way about the hard time people are going to have next winter. We will come out next spring, I think, in fair fix, and the majority will go along doing as they have always done.

Cass Co., Mo. J. M. WALE.

### AN EASTERN KANSAS LETTER.

Editor RURAL WORLD: We had an extra crop of wheat, a good crop of oats and a light crop of hay. Corn will yield from nothing to 25 bushels per acre. Early potatoes are fair, but no late ones. Apples are a light crop, but peaches the best in five years, and some of the nicest peaches I ever saw.

I raised September 12, and the ground is in fine fix for seeding. I have commenced sowing rye for pasture. I will sow 22 bushels. Wheat seeding has commenced, but there will not be much sown until after the 20th on account of some Hessian fly last year.

We have fine fall pasture and the last rain will make it better. Stock of all kinds is doing well. The corn binders have been busy of late gathering the corn fodder. They are a fine machine. I have cut 35 acres, which with my clover hay, oat and wheat straw, will give me plenty of good feed, even if feed is scarce. Most all the farmers here will have to feed wheat instead of corn this year. It is rather dear feed, but better than none.

What has the drouth done for us? In the first place it has enabled us to raise a fine crop of weeds in the corn fields. Then it has killed all the rot and scab on the apples. I spent \$15 for blue vitriol to spray one part of my orchard, and the part I did not spray is as free from scab as the part sprayed; though last year the apples were all ruined in it by the scab. The heat prevented the rot on the peaches, so that we had the finest peaches I ever raised. I sold \$6 worth. So you see the drouth is proving a blessing in disguise.

I have tried cow peas for the fourth time. I have always complained that I

could raise the vines, but no seed. Well, it is not so this year. I got some seed of the Clay and Whippoorwill and my patch was covered with pods full of beans. I dropped some between the corn rows at the last cultivating. My only wish is that I had the field all planted to them. Then when I got my corn fodder out what a fine pasture I would have for my sheep and cows. It is asserted that they will enrich the ground.

I wintered 90 head of sheep last winter. I lost three, sold \$81 worth of wool, killed \$80 worth of mutton, shipped some yearlings to Kansas City the first of June and got \$4.90—the top of the market that day, which made me feel like raising sheep. I raised 56 lambs. I have now 122 head. H. BELLAIRS.  
Montgomery Co., Kan.

### SORGHUM SYRUP MAKING.

In a paper prepared at the request of Secretary F. D. Coburn of the Kansas Board of Agriculture, by Mr. A. A. Dutton of Medicine Lodge, Kansas, the man who knows most of sorghum and syrup making, are presented the most recent items of interest and modern methods of syrup making. Pertinent extracts from his paper follow:

"Conditions indicate that Kansas syrup makers have only to bring the quality of sorghum syrup to equality with sugar cane syrup to enter an era of prosperity. The crystallizable sugar and the uncrystallizable sugar are the same in sugar cane juice and sorghum juice, as far as syrup making is concerned. The mineral matter in sorghum juice varies from that in sugar cane juice in no essential respect. The vegetable impurities are alike. The essential difference is that sugar cane juice has but one and one-half per cent of solid matter, not saccharine, while sorghum juice has much more. Sugar cane juice is naturally so pure that merely skimming off impurities makes good syrup, while skimming alone is not generally sufficient to make good sorghum syrup. When sugar cane juice and sorghum juice or their syrups are alike well refined—that is, purified—an expert cannot tell one from the other. Sorghum juice of an ordinary quality always contains enough saccharine substance to produce a first-class table syrup. The quality of sorghum syrup depends upon the purity of the juice. If no impurity is removed, the syrup is intolerable. If such impurity is removed, the syrup is a first-class table syrup. In the present imperfect way of making sorghum syrup, grassy, slimy vegetable matter is left unremoved in sorghum syrup and gives it its characteristic and unacceptable qualities. In a generation no improvement has been made in quality of sorghum syrup. The art of making fine syrup from sorghum consists almost entirely of extraction—that is, extracting undesirable matter from the juice. The sorghum syrup maker has not now, and has never had full control of the quality of his syrup, because he has not been able to separate the excess of vegetable matter from the sorghum juice. He has control only of the quantity of syrup and the density of his syrup. He is dependent upon the accidental purity of his sorghum juice. When he has learned how to purify sorghum juice efficiently it will make little difference whether the juice is unusually pure or usually impure. He will always make good syrup from ordinarily good cane. The experience of the past 50 years shows plainly that this cannot be done by merely boiling and skimming sorghum juice. It will be done by new and better ways of making syrup. Progress in sorghum syrup manufacture is not possible until improvement is made in the quality of sorghum syrup. The decline in the production can only be checked by new and better ways of making the syrup."

"It may seem absurd to some to suppose that first-class table syrup can be made in small and poorly equipped horse mills, but it is a singular fact which has not been explained, that the best sugar cane syrup and the best sorghum syrup has, so far, been made in little horse mills, with the crudest appliances, and not in the best equipped steam syrup factories. But it can now be clearly demonstrated that a Kansas sorghum syrup maker, with a horse mill, an evaporating pan and a few second-hand barrels, with no chemicals, can always make good syrup from unspiced juice of ordinary cane. This should be the turning point in the discouraged and declining syrup industry to a growing and prosperous manufacture."

"For eight years an earnest effort has been made to find among hundreds of varieties of sorghum, a variety giving as pure juice, naturally, as sugar cane gives. Such a variety has not yet been found. It seems reasonable to suppose that among so many varieties a few are adapted and adapted to syrup manufacture. At the present time there is no generally agreed on choice of varieties."

"In the past three years the effort has been to find ways to make sorghum juice as pure, by purifying it, as sugar cane juice naturally is, and so make as good syrup from sorghum as is made from sugar cane. There is very great promise in this line of work."

"In our new soil and dry climate cane is less troubled with grass and weeds than in humid states. On our level plains labor saving implements plant, cultivate and harvest cane with less labor. Cane is, perhaps, the surest crop we have."

Though largely planted, it has developed no special insect pest. Cane seed has value for seed and for feed. The crushed canes have value for fuel in the manufacture. With as good extraction of juice as is had from sugar beets or sugar cane, a ton of ordinary sorghum gives 20 gallons of syrup. It is easy to see that, at the present value of sugar cane syrup in New Orleans, a ton of sorghum cane should make syrup worth \$4. With the cheap and weak horse mills now in use, giving but ten gallons of syrup to each ton of cane, but with a home market for really good syrup at 40 cents a gallon, each ton of cane should yield \$4. The cane grower should get \$4 a ton, and the syrup maker should get \$4 from a ton of cane."

### A KANSAS LETTER.

Editor RURAL WORLD: After a year and a half spent in the West, we are back again in drouthy Kansas, convinced that this state will compare very favorably with any west of it at least.

The drouth has cut short the crop of rough feed quite seriously. Corn fodder and wheat straw will form the bulk of feed. Some are fortunate enough to have alfalfa, but cane and Kaffir corn are almost a total failure, due more to chinch bugs than to dry weather. A series of showers began on the seventh inst., which have soaked the ground thoroughly and pastures are improving.

Wheat sowing will begin soon, and with a favorable fall the fields will make much winter pasture. Farmers are feeding wheat to a great extent to both horses and hogs.

Hay is worth about \$10 per ton; wheat, 75 cents per bushel; oats, 45 cents; corn, 60 cents; bran, 35 cents; alfalfa seed, 47 per bushel. O. E. S.

### MISSOURI FARMERS' INSTITUTES.

GEO. B. ELLIS, secretary Missouri State Board of Agriculture, has issued the following circular pertaining to the farmers' institutes now being held:

OBJECT.—The primary object of the Farmers' Institute meetings is to improve the condition of the farmer. The field of investigation along the line of planting, cultivating and breeding different farm crops and the feeding, caring for and breeding up all classes of live stock is too large and requires too much time and means for the average farmer to undertake and prosecute successfully experiments in very many lines. When we get together in an institute meeting each one gets the benefit of every other man's investigations, and is thereafter ready to take advantage of his success and avoid his failures. Upon superficial knowledge we often jump at the wrong conclusion, and may cost a great deal of time and money to prove our mistake and it may be by attending a session at a Farmers' Institute meeting we may have pointed out to us by some practical man who has been over the ground himself, the road to success. This is what we are all seeking; how to produce better crops with less expense; how to prevent the continual depletion of our farms; how to produce more pounds of beef, pork, mutton and wool, with less feed; how to improve the social conditions of the farmer; how to improve our educational advantages. In other words, we want to learn how we can receive more profit with less labor and drudgery, and place farming on a higher plane so that our sons and daughters can see as great opportunities for intellectual advancement and a life of usefulness as may be found in any other calling.

ORGANIZATION.—We urge every community of farmers to have some form of local organization, not only to take charge of the institute meeting, but to hold other meetings that would be of great benefit to farmers.

Where there is a local horticultural, agricultural or dairy association they should take hold of these meetings, but where there is no such organization, then one should be formed and officers elected and committees appointed to make the necessary arrangements for the meeting. This office will be glad at any time to assist in advertising the meeting by furnishing circulars of information, list of lecturers, subjects discussed, etc.

MEETINGS.—The meetings for 1901 will be divided into five series, the first series beginning at Bowling Green, Pike County, and continue as follows:

Bowling Green, two days, September 23 and 24.

Perry, Ralls County, two days, September 24 and 25.

Mt. Zion, near Hannibal, two days, September 25 and 26.

Monroe City, two days, September 26 and 27.

Lewistown, two days, September 27 and 28.

La Grange, two days, September 27 and 28.

Knox City, two days, September 30 and October 1.

Brashear, two days, October 1 and 2.

Milan, two days, October 2 and 3.

Unionville, two days, October 3 and 4.

Laredo, two days, October 4 and 5.

Grant City, two days, October 4 and 5.

Sheridan, two days, October 4 and 5.

Breckinridge, one day, October 5.

New Cambria, two days, October 7 and 8.

Callao, two days, October 7 and 8.

Meadvile, two days, October 8 and 9.

Hamilton, two days, October 9 and 10.

Mirabile, two days, October 10 and 11.

Lathrop, two days, October 11 and 12.

Gilman, one day, October 12.

Albany, two days, October 14 and 15.

Bethany, two days, October 15 and 16.

Guilford, two days, October 16 and 17.

St. Joseph, two days, October 17 and 18.

Forest City, two days, October 18 and 19.

Maitland, two days, October 21 and 22.

Rockport, two days, October 22 and 23.

Liberty—Grange Hall, October 23 and 24.

Norborne, two days, October 24 and 25.

Richmond, two days, October 25 and 26.

Gashland, one day, October 26.

SESSIONS.—Where the interest is sufficient and the time of trains or other means of transportation will permit, there will be held three sessions each day, morning, 10 a. m., afternoon, 1:30 p. m., and evening, 7:30 p. m. Remember that our lecturers cannot wait and must begin promptly on time in order to get to the next appointment.

EXHIBITS OF FARM PRODUCTS.—A display of farm products is always an interesting and instructive and often will add considerably to the benefits derived from the meeting. This exhibit should not take the form of an outside fair which will detract from the interest of the institute, but the collection of fruits, grains, grasses and vegetables can be arranged on tables in the rear of the speakers' platform, where it will add to the attractive appearance of the room and can be examined only when the institute is not in session. In some places premiums are offered by merchants, bankers and progressive farmers and others, which will help to bring out a good exhibit. If the display is arranged in a separate room from the institute hall it should be closed during the sessions.

LECTURERS.—Only practical and successful farmers, prominent and experienced teachers from the Agricultural College and Experiment Station, the State Superintendent of Schools, or other leading educators and the State Veterinarian will be employed as lecturers and we are sure that everyone who shall attend will be benefited in some way by the meeting. The speakers who will attend each meeting will cover a wide range of subjects so there will not be any one who will not hear something discussed along his own line of work. Each one present will have the opportunity to ask any question relating to the subject under discussion, and all will be invited to take part in the general discussion after the close of each lecture.

PROFITS OF THE MEETING.—We can assure every one who will attend the meetings and take an interest that he or she will in some way be well repaid for the time spent. Bring along your pencil and note book and make notes of important facts given, and try some of the experiments advised and at the end of the year see if there is not a profit on the value of your time.

### LIST OF SPEAKERS AND SUBJECTS ASSIGNED.

H. J. WATERS, Dean of the Agricultural College and Director of the Export Station. Subjects: What Kinds of Feed Should Be Bought this Winter? Clover and Cow Peas as Soil Renovators and Stock Feeds. The Work of the Agricultural College and Experiment Station.

HON. W. T. CARRINGTON, State Superintendent of Schools. Subjects: Nature Study Leading up to the Study of Agriculture in Public Schools. Unification of the Work in All of the Public Schools of the State.

DR. D. F. LUCKEY, State Veterinarian, has selected the following list of subjects and will talk on the subject of most interest in the community and will take pleasure in answering any question during the session or at any other time.

The Prevention of Contagious Diseases Among Live Stock—Prevention vs. Cure; Causes of Contagious Diseases; How Contagious Diseases Spread; How to Prevent Contagious Diseases.

Vaccines and Vaccination of Live Stock.—How Vaccines Are Prepared; The Diseases in Connection With Which Vaccination Is Practiced; Vaccination of Cattle, Horses, Sheep, Hogs and Chickens.

Diseases of Poultry—Roup, Cholera and Gaps.

Tuberculosis—The Cause of Tuberculosis; How It Spreads; Symptoms; What Should Be Done to Prevent Its Spread Among Missouri Cattle and Hogs.

The Horse's Foot—Value of a Good Foot; How to Grow a Good Foot; Proper Care of Foot; Proper Preparation of the Foot for Shoeing.

How to Judge a Horse.

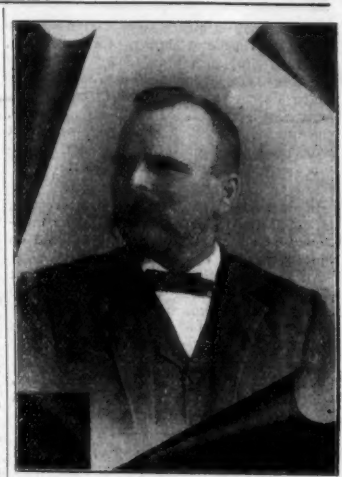
The Horse's Teeth—Description of Teeth; Kinds and Number of Teeth; Relation of Teeth to Digestion; Horse Dentistry; When the Teeth Should Be Fixed; How to Tell the Age of a Horse by the Teeth.

Any disease in the following list will be taken up at the institutes on request and discussed with reference to the cause, manner of spread, symptoms, prognosis, treatment and prevention. Those who expect to attend the farmers' institutes should decide upon the subjects for discussion sometime previous to the meeting.

Horses—Glanders and Farcy, Strangles (Distemper), Influenza, Anthrax, Epistaxis, Cellulitis, Catarrhal Fever, Infectious Laryngitis, Mange.

Cattle—Lumpy Jaw, Blackleg, Tuberculosis, Contagious Abortion, Malignant Catarrh.

Sheep—Scab, Grub in the Head, Sturdy or Gid, Intestinal Parasites.



L. A. SPIES, ST. JACOBS, ILL.

Mr. L. A. Spies, whose portrait appears above, is a frequent contributor to the RURAL WORLD. Our readers will be glad to become better acquainted with him by means of the picture and a brief biographical statement:

Mr. Spies was born on a farm near St. Jacobs, Ill., February 12, 1858. He was educated at McKendree College of Lebanon, Ill., taught school two years, was in charge of the St. Jacobs mills for two and a half years, commencing in 1878. That year he married Minnie Dzenegolewski of Marine, Ill., who was the model wife and helpmate. Together they moved onto a new timber farm near St. Jacobs and with limited means stocked their farm with the best stock and managed the farm according to the best methods, and as a result the farm grew from a few acres to hundreds.

For the past seven years Mr. Spies has been at the head of the Madison county, Ill., Farmers' Institute, and is one of the state institute speakers.

Having acquired a comfortable competency from farming Mr. Spies has great faith in the business if it is intelligently followed, and he is always ready to give to others, particularly young men who are engaged in farming, the benefit of his experience and advice. Indeed, much of his time is now spent in trying to help his fellow farmers into more profitable methods of farming, not by assuming that he "knows it all" and telling them what to do, but by showing them through experiments which he conducts on his own farm. A man actuated by such purposes can do an inestimable amount of good in the world, and what such an one has to say in the columns of the RURAL WORLD will always be read with interest.

### Hogs.—Cholera, Swine Plague and Worms.

C. H. ECKLES, Professor of Dairy Husbandry, Agricultural College. Subjects: "The Selection, Feeding and Care of the Dairy Herd," "Profits in Dairying" and "Butter Making on the Farm."

F. B. MUMFORD, Professor of Agriculture, Agricultural College. Subjects: "Some Fundamental Problems in Profitable Stock Feeding," "Animal Form as Related to Profitable Food Consumption."

T. L. MAIRS, Assistant in Agriculture. Subjects: "The Comparative Draft of High and Low Wheeled Wagons," and "The Value of Clover and Cow Pea Crops."

J. M. STEDMAN, Professor of Entomology, Agricultural College. Subjects: "Insect Pests of the Farm and Orchard and How to Combat Them."

C. D. LYON, farmer, Higginsport, Ohio. Subjects: "Improving and Keeping Up the Fertility of the Soil," "Legumes as Soil Improvers," "Wheat Growing," "Corn Culture," "Tobacco Growing," "Farm Work Shops, Poultry Yard and Garden."

HON. N. F. MURRAY, President State Horticultural Society, Oregon, Missouri. Subjects: "Commercial Orchards," "Farm Orchards," "Profitable Varieties to Grow."

G. W. WATERS, farmer, Canton, Missouri. Subjects: "Soil Building," "Lessons of the Drouth," "Profitable Pig Feeding," "The Farmers and the World's Fair of 1902."

Perhaps other speakers will be employed who will be present at some of the meetings and lectures on subjects of special importance. All the speakers can not be present at any one meeting, but the work will be divided up and plenty of lecturers will be on hand to conduct the meeting.

ALL ARE INVITED.—Let every one take an interest in the meetings, make arrangements to attend every session, bring your wives, your sons and your daughters, ask your neighbors to come, get acquainted with the lecturers, and better acquainted with each other, after the meeting talk over what you learned, compare notes and at the end of another year we are sure you will be a friend and supporter of the Farmers' Institute.

Weeds can not grow without seed. It is therefore a good idea to encourage their germination and growth during the late summer and fall, as this is the best season for killing them. The latest crop will be killed before maturing by the frost.



C. A. TILLES, President.

JOHN HACHMEISTER, Secretary.

JOSEPH E. MARTIN, Treasurer.

# 1901 The Biggest, Brightest and Best 1901

## THE GREAT ST. LOUIS FAIR FAIR GROUNDS!

### 41ST ANNUAL FAIR OPENS OCTOBER 7, CLOSES OCTOBER 12.

The greatest, most comprehensive and most attractive annual Fair on earth. Competition open to the world. Space and entries free. The liberal premium list more liberal than ever this year. One fare round trip on all railroads, made especially for the Great St. Louis Fair. The all-powerful magnet of Fair Week, that attracts hundreds of thousands of visitors to St. Louis, where a royal welcome awaits all who will come to enjoy the manifold attractions of the Great St. Louis Fair, combined with St. Louis' proverbial hospitality so lavishly displayed in her fall festivities.

#### MAGNIFICENT AGGREGATION OF BRILLIANT FEATURES THIS YEAR.

The most elaborate and extensive exhibits in Agriculture, Horticulture, Machinery, Farm Implements, Dairy Products, Fruits, Vegetables and the most artistic displays ever seen of woman's work in the Textile Department. The leading LIVE STOCK SHOW OF AMERICA, bringing in direct competition the choicest blooded stock of the leading breeders of this or any

other country. The Poultry Show is concededly the most attractive and thoroughly representative in the world. There will be 6,000 birds of high feather on exhibition. The leading manufacturers of all character of agricultural implements will have an impressive display of their new and improved machinery and most modern devices.

#### THE HORSE SHOW

Will have the largest number of rings, the brightest features and the most liberal prizes ever offered at any Fair. This year it will be a world-beater. The carriage department will have vehicles of all character, design and manufacture from Main to Manila. The entries are nearly double those of previous years—a record which speaks for itself. Note the magnitude, magnificence and magnetism of the special attractions this glorious year of 1901. A myriad of high-class events.

GENERAL  
ADMISSION  
50 CENTS.

## The Dairy

Mr. Frank Moulton, proprietor of the Cowgill Cheese Factory, Cowgill, Mo., received first premium on his exhibit of "Young America" cheese at the Missouri State Fair. He presented to the President and Secretary of the Fair a cheese, the quality of which was most excellent and speaks well of the skill of Mr. Moulton as a Missouri cheese maker.

In Mr. Herbert Shearer's interesting Model Dairy letter on this page, he mentions the effect of the change of feed on the texture of the butter.

An article from him setting forth what changes were made in the feed as to character and quantity and the effect produced would be very instructive. It would be one of the most valuable of the many lessons taught by the Model Dairy. The influence of the feed on the texture, color and flavor of butter is a subject demanding the attention of dairymen.

#### THE ST. LOUIS FAIR,

October 7-12, 1901, the 41st Annual Fair.

Dairymen who have not received a copy of the Great St. Louis Fair catalog of the coming fair, Oct. 7-12, should request a copy of John Hackmeister, secretary, or Levi Chubbuck, superintendent of the dairy department. The schedule of premiums offered in the Dairy Department is an attractive one, and is so arranged as to give almost every exhibitor a chance to win something, while the first honors will be worth competing for by the best butter and cheese makers in the country. The first, second and third cash premiums in all classes of butter and cheese range from \$10 to \$2. A diploma will be awarded on the highest scoring butter, and also on cheese. One hundred dollars will be divided pro rata among exhibitors of butter scoring 90 points and over, other than first premium winners, and \$50 will be divided in the same way among cheese exhibitors.

A solid gold medal and \$10 in cash will be given by the Wells-Richardson Co. to the butter maker of the highest and second highest scoring creamery butter, respectively, using their butter color.

Colman's RURAL WORLD will give five annual subscriptions to the creamery exhibitor who wins the highest scoring butter, and the same to the cheese factory that shows the best cheese; also an annual subscription on the best package of dairy butter and the same as a farm-made cheese.

Send for a catalog at once; it is a beauty and contains a number of full page half-tone engravings of photographs, showing views in the St. Louis Fair Grounds, the handsomest fair grounds in America.

#### THE DAIRY EXHIBIT

At the Missouri State Fair.

Editor RURAL WORLD: The exhibit of dairy products at the recent State Fair, while not large, was of good quality. In the creamery class there were six exhibits, which scored as follows: W. S. Dille, Holden, 97; W. S. Dille, Holden, 96; Dickman Bros., Manilla, 95; Concordia, 94; J. J. Smith, Sweet Springs, 93; M. Mortenson, Sioux City, Ia., 94. In the class for best 15 pounds of dairy butter the highest score, 97%, was given to Nathan King of Deer Park, Mo. The complete list is as follows: Nathan King, Deer Park, 97%; G. W. Hoadly, Sedalia, 97; Mrs. S. W. Coleman, Sedalia, 96; J. F. Bruns, Concordia, 96; Dickman Bros., Manilla, 95%.

In the class for best cheddar cheese over 30 pounds, A. E. Helmer of Evans Mills, N. Y., had a very fine graded cheese of excellent flavor, which won first prize with the high score of 97. McCrea and Burkett, Cameron, Mo., won second with a score of 94. In Young America cheese the first premium went to Frank Moulton, Cowgill, Mo., with a score of 92; second to Helmer, Evans Mills, N. Y., score 92.

It is expected that the fair management will be able to offer better accommodations for the display of dairy products in the future.

In the dairy cattle exhibit the excellent herd of Holsteins owned by M. E. Moore, Cameron, Mo., was quite an attraction. There was no competing herd in this breed.

In the Jerseys, Mr. Oliver, Dearborn, Mr. Bruns, Concordia, Mo., and Mr. Coleman, Sedalia, were the exhibitors, making an interesting competition. The awards in both products and dairy breeds of cattle were made by C. H. Eckles, Professor of Dairy Husbandry, in the Mo. Agricultural College, Columbia.

#### What are Humors?

They are vitiated or morbid fluids coursing the veins and affecting the tissues. They are commonly due to defective digestion but are sometimes inherited.

How do they manifest themselves?

In many forms of cutaneous eruption, salt rheum or eczema, pimples and boils, and in weakness, languor, general debility, and how are they expelled? By

#### Hood's Sarsaparilla

which also builds up the system that has suffered from them.

It is the best medicine for all humors.

OCTOBER 6-10, 1902.

Is the Date Fixed for the Next Convention of the National Creamery Butter Makers' Association.

Editor RURAL WORLD: In response to a call by the president, the executive committee of the National Creamery Butter Makers' Association met in session at the Grand Pacific Hotel, Chicago, September 14, to consider matters of importance pertaining to the association.

There having been considerable agitation since the close of the last meeting whether the next annual convention should be held in winter or in fall, the secretary was instructed to ascertain as far as possible the wishes of the various members, in response to his inquiries there were received up to date 67 postal cards and letters, of which 194 were in favor of winter meeting, 494 in favor of fall meeting, and 29 had no preference. The committee, after reading over these letters and cards, carefully came to the conclusion that it was the wish of a large majority of the members to have the next convention in the fall of the year, not only the butter makers, but many of the commission merchants and almost all of the supply houses, who are the main contributors to the premium fund, favored a fall meeting.

The following resolutions were unanimously adopted by the committee, all members of which were present. Resolved, That in compliance with the wishes of the majority of the members of this association that the next annual convention be held in the fall of 1902, and that the date be fixed for October 6th to 10th, inclusive.

Resolved, That in as much as the next convention will not be held until the fall of 1902 the question of location be left over until the next committee meeting. Resolved, That it is the sentiment of the executive committee that the position taken by its secretary regarding who should be considered champion butter maker of the United States is correct, to-wit: That the butter maker winning the gold medal at the National Convention is the champion until another gold medal is awarded, and be it further resolved, that the secretary be instructed to have prepared a special championship cup, with the inscription, "Champion Butter Maker of the United States," to be presented to the butter maker having the highest score at the next national convention. This championship cup to be held by him until some other butter maker at a National Creamery Butter Makers' Convention receives the highest score at that contest. Said cup to be returned to the convention each year. Any butter maker winning the cup three consecutive years to become owner of the cup.

There being no further business of importance to consider the meeting was adjourned subject to the call of the president.

E. SUDENDORF, Secretary.

#### THE MODEL DAIRY

At the Pan-American Exposition.

Editor RURAL WORLD: The Model Dairy at the Pan-American has probably done more to set people talking about the different breeds of dairy cows than any show or set of shows ever before held. The many different opinions expressed by cattle men emphasize in a very substantial manner the importance of the undertaking with a very impressive hint as to the value of the final outcome. Every herd represented has furnished surprises at frequent intervals that have added a great deal to the general interest. There is much to be said in favor of each breed, and a great deal is being said and printed in the different agricultural and live stock papers in every state in the Union and throughout the different provinces of Canada.

RED POLLS.—The Red Polls have astonished a great many people who were unfamiliar with the breed, as they have continued to furnish a flow of milk that has contained a fair amount of butter fat, while the expense for rations has been comparatively small. Through the sections of the Middle South where an animal is wanted whose calf is good for veal or to raise as a steer, this breed should be especially valuable. Circumstances rendered the selection of a suitable herd of Red Polls most difficult. In fact, the owners of the Red Poll cattle almost despaired of finding a sufficient number of suitable animals to complete the herd, and were obliged to accept cows, one of which was advanced in years, while another was in very poor condition with little or no established record.

PERCENTAGE OF FAT.—Another point of interest has been thoroughly demonstrated in regard to the effect that feed has upon the percent of butter fat. During the four months of the Exposition the amount and kind of feed has varied greatly, yet there has been no marked change in the butter fat as effected by the feed. Variations in this respect have almost invariably been traced to influences emanating from extraneous conditions such as extreme heat and undue excitement caused by the unusual surroundings.

SILAGE.—The value of silage as a feed for milk cows is another point of universal interest that has been thoroughly demonstrated during this extended experiment. Although the silage in this case was put up 17 miles away, making it necessary to haul the feed in wagons through the hot sun this distance, the

#### REPORT OF THE MODEL DAIRY

At the Pan-American Exposition, Giving Totals of Each Herd Complete from the Commencement of the Test, May 1, up to and Including the Week Ending September 2, 1901.

| Name of Herd.   | Value of Milk. | Value of Butter. | Value of Cream. | Value of Fat. | Value of Solids. | Value of Total. |
|-----------------|----------------|------------------|-----------------|---------------|------------------|-----------------|
| Holstein        | 25125.3        | 1044.67          | 3261.15         | 24.06         | 16.16            | 70.27           |
| Shorthorns      | 22201.3        | 869.18           | 239.99          | 24.71         | 16.12            | 69.79           |
| French Canadian | 15857.2        | 832.11           | 208.06          | 18.40         | 13.52            | 48.13           |
| Guernseys       | 20368.2        | 1069.32          | 267.32          | 25.82         | 12.39            | 58.49           |
| Ayrshires       | 24275.3        | 1081.49          | 257.84          | 23.39         | 13.75            | 59.54           |
| Polled Jerseys  | 15168.1        | 819.             | 202.40          | 24.12         | 9.72             | 41.10           |
| Jerseys         | 15896.4        | 1084.77          | 258.67          | 20.68         | 12.27            | 59.67           |
| Dutch Belted    | 18849.9        | 701.34           | 175.23          | 21.40         | 10.51            | 57.53           |
| Red Polls       | 21631.         | 983.5            | 245.98          | 22.28         | 13.4             | 61.29           |
| Irish Swiss     | 23171.0        | 961.43           | 340.42          | 23.22         | 13.5             | 61.69           |

ration thus provided proved to be thoroughly satisfactory. The silage lasted until the middle of August, the last load being as good as the first, and every herdman was sorry when it was all gone. There seems to have been no division of opinion on this subject, as every man interested appears to be thoroughly convinced that the silage has proved its value in a most remarkable degree. The only regrets, apparently, were that the silage was not put up on the grounds where it could have been handled to the best advantage.

THE NEW SILO.—The new silo that was built last week by the Moseley & Stoddard Co., is designed to furnish silage for the remainder of the season. The most improved machinery is now at work filling this silo with green corn that was grown for the purpose on nearby farms.

BUTTER FIRMNESS.—Since less gluten has been included in the rations there has been a noticeable improvement in the hardness of the butter. During the months of May and June, when a great deal of gluten was fed, some difficulty was experienced during the very hot weather in getting the butter hard enough to work. At the present time, however, there is little or no difficulty experienced in this respect, and the difference is attributed principally to the change in feed.

THE OCTOBER SCORING.—All are looking forward to the scoring of butter and cheese to take place between the 10th and 15th of October. At this time we expect a very large exhibit of the finest goods that are made in the United States and Canada. The judges who will score the butter in the October exhibit are A. H. Burber, Chicago; W. I. White, Boston, and Steinhoff of Ontario. The committee who will score the cheese in October are Mr. Brice of Montreal, Mr. Richardson of Lowell, N. Y., and Mr. Hoyt of Fond du Lac, Wis.

HERBERT SHEARER, Pres. Department, Buffalo, N. Y. Bazaar Building.

#### MISSOURI BUTTER.

In the September Scoring at the Pan-American Exposition.

SEPARATOR CLASS—60 LB. TUBS.  
Holden, Mo., Creamery.....95.50  
Holden, Magnolia Branch.....95.50  
Holden, East Lynne Branch.....94.25  
Macon, Mo., Creamery Co.....94.25  
Conning, Mo., Creamery Co.....94.25  
Cosby, Mo., Creamery Co.....94.25  
Garden City, Mo., Creamery Co.....93.75  
Macon Creamery Co. (Branch 1).....92.00

#### SEPARATOR CREAMERY—PRINT CLASS.

Garden City Creamery Co.....94.25  
Macon Creamery Co. (Branch No. 2).....93.75  
Macon Creamery Co. (Branch No. 3).....93.75  
Macon Creamery Co., Macon.....93.25

#### DAIRY CLASS.

H. C. Goodrich, Calhoun, Mo.....95.00  
Nathan King, Deer Park, Mo.....94.25  
Joseph Elliott, Windsor, Mo.....91.50

#### ORNAMENTAL CLASS—FANCY PAIL.

Macon Creamery Co. (Branch No. 2).....94.50  
Macon Creamery Co. (Branch No. 3).....94.50  
Macon Creamery Co.....94.00

One creamery exhibit was delayed in transit and had not yet been scored. I will prepare for the next issue of the RURAL WORLD a comprehensive statement showing averages of all states competing. Missouri's average on September entries is a small fraction below 95%.

R. L. WRIGHT, Sup't.

Sept. 16, 1901.

#### TO MAKE A COW MILK EASILY.

M. Warren county, Ill., wants a "reliable" recipe for making a hard milking cow milk easily. The writer can tell him how to make a cow milk easier and not do injury to her teats. Some years ago a great many cows had their teats destroyed by the use of dilating plugs. One smart individual proposed to make holes big enough so that any child could squeeze out the milk, and he just about destroyed his herd. The only "reliable" recipe the writer can give is to be on hand when such a cow drops her calf. Don't allow the calf to suck, or the teats to get wet with milk, but milk her with a strong hand. You will be surprised how the milk valves will open and what a big stream you can get. During the first 12 hours milk her five or six times. It must be done by some one who has a strong hand, and the best milker on your farm should continue to milk her. I have greatly improved many hard milking cows in the above way. The undersigned has no use for either dilating plugs or milking tubes. He treats cows' teats that need treatment in a more sensible way.—A. X. Hyatt in Prairie Farmer.

#### A BIG MISSOURI CREAMERY.

In a recent issue of the RURAL WORLD mention was made of the Blue Valley Creamery lately established in St. Joseph, Mo. The "Herald" of that city quotes Mr. W. W. Marple regarding the enterprise as follows:

Manager Marple said yesterday that it was the expectation to induce farmers for 200 miles in every direction, except west and north, to send their cream to the St. Joseph creamery. It will not be possible to go so far west and north on account of the competition from Topeka, Omaha and Lincoln. But there is practically no competition east or south, and it is believed that before a great many months more than 10,000 farmers will send their cream here regularly. The bill of each of these will average \$50 a month. That means \$500,000 a month or \$6,000,000 a year.

"It will take some time to work up this business," continued Mr. Marple, "but once it is worked up it will be a great thing for St. Joseph as well as the stockholders. Ten thousand farmers will receive each month checks aggregating \$500,000 and all of these will be drawn up on St. Joseph banks. This fact alone will increase immensely the local bank clearings. The banks with which the farmers deal will necessarily open up an account with some St. Joseph bank in order to save the amount of the exchange. This in itself would be no inconsiderable sum. Then, too, many of our customers, if they do here as at Lincoln, will visit us in large numbers and that fact will result to the benefit of all sorts of businesses."

Mr. Marple says that for the present his company will not establish skimming stations, as the big creameries at Lincoln and Beatrice have done, but that skimming will be done by the farmers at their homes. To do this they will have to buy the hand skimmers, which the Blue Valley Company will sell on easy terms.

Experts who have made the subject a study say that Missouri is naturally a much better state for dairy purposes than Iowa, which receives from its butter alone a sum in excess of \$2,000,000 annually. Missouri, on the other hand, pays for butter \$400,000 in excess of that which it receives. Grass, climate and water in Missouri are more favorable for the dairy cow than the same things in Iowa. The possibilities of this branch of farming are at least to be laid before the people in a systematic and scientific way as the last legislature appropriated \$40,000 for that purpose. A dairy commission has also been appointed who has his headquarters at Columbia in connection with the agricultural department of the Missouri university. It will be his business to supply inquirers with all the data on the subject that may be desired.

"The people of Missouri," said Mr. Marple, "are wont to think that their state is the greatest in corn and wheat growing, but some figures recently made public by the secretary of agriculture at Washington show that Illinois, Iowa, Nebraska and Kansas beat it in the aggregate value of these cereals for the last five years. The figures are as follows: Illinois, \$301,419,922; Iowa, \$230,783,771; Nebraska, \$201,419,922; Kansas, \$175,135,347; Missouri, \$175,961,988. The interest of these figures in this connection is that the Missourians are accustomed to say that the people of Kansas and Nebraska are bound to resort to dairy farming in order to exist, as their states are in the semi-arid regions where crops cannot be counted upon. These figures show that Kansas and Nebraska, to say nothing of Illinois and Iowa, exceed Missouri in the value of their corn and wheat crops. Notwithstanding, the farmers of those states find it profitable and desirable to follow dairy farming. In this state they have regarded the work as that for women, but these singularly masculine figures which I have given as to the total value of Iowa produced butter—\$21,000,000—show that it is a work that men may well follow."

Mr. Marple says that his concern now has seven men on the road making arrangements with the farmers to ship their cream to this city and before long this number will be trebled.

The cow cannot always maintain a high average yield of milk or butter. Even the same exact feed and general care, that may enable a cow to make 350 pounds of butter in one campaign, may be rewarded by only 200, or even 150, pounds in the next campaign. This is one of the inevitable variations with which the dairy farmer must contend. It is a variation based on constitution, and for that reason it is impossible to evade it, or control it, or to make up for it in any way.



## Are You Making Money?

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You can work for us and make a better salary than any other man in your county. We are engaging special representatives in every county in the United States, to handle our two great remedies. We must have active, wide-awake men and women at once and are willing to pay good money for good people. Our remedies are without exception, the best sellers on the market. You sell them on a positive guarantee.

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a quick and positive cure for constipation, biliousness, insomnia, sick headache, nervous dyspepsia, and all disorders of the digestive and nervous system. In tablet form. Easy to take and sure in results.



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Modern Remedy Company, Kewanee, Illinois.

We refer to Kewanee National Bank as to our responsibility.

#### FAKE SEPARATORS.

"Dilution" Apparatus a Worthless Fraud—Experience in Minnesota.

Tin cans for raising cream on diluted milk, sold under the name of "cream separators," have been shown up as worthless time and again. But still they are sold and bought. Here is the experience of H. F. Olson, butter maker at Ashby, Minn., as related in "Dairy Record": "It might be of interest to some readers to know something about these so-called dilution separators or water separators as they are known by that name in this locality, where quite a number have been sold at many times the price they are worth. There are only a few in use now and they are used only by those farmers who were taken in by the promoter, and to whom he sold territory at a good price. One man told me he had lost \$700 on buying the right for selling those cans or so-called separators in a certain territory.

"When I first came here this summer I had a talk with a man who had a dilution can. He claimed that in 40 minutes he could separate the cream from the milk, and just as clean as could be done by any hand separator. If this is a fact, I said, it will be foolish to buy hand separators, as they cost more and it takes more work than simply to pour in some cold water and let it stand 40 minutes and draw the cream. So I asked him to let me have a sample of his skimmed milk some day. I had my helper go to his place one evening for a sample, but he (the farmer) thought it would be better to let his wonderful machine stand and take its time to work until next morning, giving it 12 hours to skim instead of 40 minutes. Next morning my helper went out and got a fair sample, after all the cream was taken off that this machine could get. I then tested his sample in a Babcock tester. It tested 45. Now, as there was added just as much water (if not more) as he had milk, we will have to multiply by two, which gives us 90 or nearly 1 per cent butter in the milk. This man has not said any more about his clean skimming since. He is to have a hand separator this fall. I have received cream from one of these cans for some time. This cream has got a flat or watery taste. I think it would be impossible to make a first-class article of butter from such cream alone. This man I have received cream from told me his cream was pure and sweet and contained no water. I had him call at the creamery one day and showed him his cream. I had taken for test in a composite test bottle. It was easy to see which bottle was his, as it contained about one-fifth water. This man is very anxious to know how much he is losing by using his can, so he is going to get a separator for a few weeks and let him see for himself how much he has been losing. So my experience with the dilution cans is poor cream, spoiled skim milk and a loss of 1 per cent butter fat in every 100 pounds of milk."

#### CLEANLINESS IN DAIRYING.

Cleanliness is nowhere more to be desired than in the dairy. The milk or butter producer who keeps cows that are not healthy, whose stables are constantly filthy and poorly ventilated, whose milk cans are not properly cared for, who allows flies and other insects to drown in the milk, and who is personally unclean and slovenly, does not deserve the patronage of respectable people. It would be well if consumers of milk and butter could make occasional visits to the dairy from which they are supplied. Such visits by patrons would do more toward keeping dairies clean and making their products wholesome than all the inspections by the board of health.—Hood Farm Topics.

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## St. Louis Globe-Democrat

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half cash and balance on time. 100 acres, 100 acres all under hedge and wire fence, all in cultivation except a beautiful walnut grove of about 15 acres, feed lots etc. Two never-failing wells, one never-failing spring, and two springs that never failed until the present drought, a good place to make a cash pond. New stock barn 60 x 100 feet, machinery buildings, crib, granaries, scales, good 11 room two story farm house etc. Plenty of good fruit for home use. Sold to become one of the best farms in Green County, two miles south of the public square, Springfield, Mo. Address

D. B. LOY, Aurora, Mo.

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# Horticulture

ENOUGH FRUIT FOR BUFFALO.

Now for the Charleston, S. C., Exposition.

Charles C. Bell, Missouri State Commissioner to the Pan-American and Charleston Exposition, in charge of the horticultural exhibit, asks the RURAL WORLD to express his high appreciation of the good will manifested by the fruit growers of the state in sending him supplies of fruit for exhibit at Buffalo. Further shipments are, however, not needed for the Pan-American Exposition, as Commissioner Bell has in store an ample supply with which to maintain the display for the time now remaining until the close of the exposition. He would, however, be greatly obliged if fruit growers would make collections for the Charleston, S. C., Exposition. These should be sent to him in care of the St. Louis Refrigerating and Cold Storage Company, St. Louis.

WILL REACH 500 CARS.

The shipment of Elberta peaches from West Plains has ended and there were eleven cars of this luscious fruit sent to the eastern markets from this place. Of this number, Joe Knoerle of the Lone Pine Fruit Farm, shipped six cars, which entitles him to high honors.

From four acres, on which there were 550 trees, Mr. Knoerle picked 1,500 six basket carrier crates of peaches, equal to three car loads. All of this fruit was fancy graded and brought the top price of the market.

In the estimation of all fruit growers, the crop of late peaches will be about half of that already picked.

According to an estimate made by Superintendent Age of the Southern Express Company, at least 350 cars of peaches have already been shipped from the South Missouri peach belt this year. The entire crop will easily reach 500 cars, an estimate that was published in the "Gazette" some two months ago.—West Plains (Mo.) Gazette.

A HOWELL COUNTY, MO., FRUIT FARM.

The West Plains, Mo., "Gazette" thus describes a Howell County fruit farm: "The Knoerle farm is two miles and a half out, along a valley road that gradually ascends till a fine rise of ground on which the farm is located, gives a superb view of pretty farming country with the valley stretched below dotted with orchards and vineyards."

This farm was bought ten years ago and has been constantly improved ever since, and will soon be one of the most noted in this section for its apple product. The farm consists of about 300 acres, eighty acres of this having been cleared for apple trees, which will bear this year, and the yield promises to be a most profitable investment.

Of the peach crop just closing, fifteen hundred crates have been shipped so far from the forty acres of peaches, there being one hundred and forty acres in fruit, no grape culture, however having been attempted as yet. Mr. Knoerle will continue to look to his peaches and apples, to make his investment pay, and leave grapes and other small fruits alone.

"This is the best peach year," said Farmer Knoerle, "since '97, but the price was better then. If I had been such a fool," continued the well known West Plains, "and cut my peach trees in '90 to snow line when I thought the blizzard of that year had ruined them, but I acted on the advice of the best authority in the state, I might have shipped this season forty car loads. But then," he said with a sly wink, "there were others, and I was only half a fool, for I was a doubting Thomas at the time, and only slashed into part of the trees. Look at that one in front of you, it didn't get dehorned, and see the peaches?" We all looked on a beautiful sight, a thrifty tree with glossy leaves and laden with rosy cheeked fruit and then a great cloud of Howell County dust whipped by and obscured the view while the passing breeze seemed to echo the tree top, "Of all words of tongue or pen the saddest of all, it might have been."

Yes, Joe Knoerle and the other fruit experimenters of West Plains who cut down fruit trees might have caused an extension of the railroad to their farms if they hadn't been such wise sages in '90. As it is, everybody in the fruit culture in Howell County is getting rich, and the loss of a few trees back in '90 cuts no figure in the fruit boom of 1901.

At the Knoerle farm, the fruit season has been on since the 25th of July, and will last for fully three weeks more.

There is just now a lull, the finest shipper and best paying peach, the "Elberta," having been gathered and sent to northern markets.

The next peach will be the "Galway," a free stone, and will be on in ten days. The "White Heath" will also be on the market about week after next.

Mr. Knoerle is so busy in his packing sheds that he hasn't had time yet to compute his wealth earned from peaches and the sweat of his good natured brow these hot summer days. He says he can't even estimate it, for the cars are still on the road and he hasn't tried to approximate it.

It is safe to say, however, that the Knoerle fruit farm is a better savings bank than the Beaumont oil fields.

On turning homewards the party drove through the fine orchards and came into town with a generous souvenir of a visit to a Howell County fruit farm.

COLD STORAGE OF APPLES.

The Year Book of the Department of Agriculture for 1900 contains the following: "The greatest usefulness of refrigeration for the apple is now, and probably will continue to be, in the United States, where the long warm fall and unsettled winters make cellar storage uncertain at all times, even with the most durable varieties. It is evident, however, that in many seasons refrigerated storage in the great apple districts of the north greatly lengthens the marketing season."

"Its greatest direct benefits to the apple producer have probably come through the prompt withdrawal from market, at harvest time, of large part of the fall fruit, which alone it will pay to store. In this way prices of good fruit are less likely to be depressed, and the average price of good apples throughout the year is undoubtedly higher than would have been possible without refrigeration. It is noticeably true in our large cities at the present time that the visible supply of choice winter apples on the market is



THE MISSOURI HORTICULTURAL EXHIBIT AT THE PAN-AMERICAN EXPOSITION, CHARLES C. BELL, COMMISSIONER IN CHARGE.

smaller in October and November, at the height of the receiving season, than later in the winter. Yet, upon inquiry, choice fruit can be found in the storage establishments, where it is held for later sales.

"This is especially true of certain delicate and high priced varieties that are normally short lived, such as Northern Spy, Jonathan and Grimes, which have been found to endure refrigeration well, and to bring much higher prices later in the winter than if sold in the fall. There are limits, however, beyond which the retardation of these fancy varieties cannot be carried with profit, and these are yet to be ascertained by careful experiment. Many points in connection with the subject are yet unsettled. Thus, the proper temperatures for fruits in different stages of ripeness and for varieties of different characteristics; the comparative effect of sudden versus slow chilling of the fruit when placed in storage; the relative merit of tight versus ventilated packages, of wrapped versus unwrapped fruit, and of various methods of packing in relation to the discoloration known as "barrel scald"; and the effect of different profitable distribution of fruit.

"The fact that some of the choice varieties of apples that were formerly unprofitable because of their poor keeping quality can now be profitably grown and safely stored is working a gradual change in the character of the varieties planted by making their culture profitable in commercial orchards. This promises to become the most important factor in raising the quality of our commercial orchard products."

HARVESTING APPLES.

If apples are sold to commission men or fruit dealers it is best to consult them as to the time and manner of picking, grading and packing. They are familiar with the wants of the trade and know best how to meet its demands, writes O. H. Burnhill in the "Farmers' Tribune."

A large crop of good winter apples can sometimes be disposed of to the best advantage by selling in the orchard for a lump sum. This obviates the work and worry of marketing, and holding such a perishable crop for higher prices is risky business. It is not apt to pay unless one is a good judge of the market and the fruit is well stored. Where the apples are sold on the trees one should be able to correctly estimate the quantity of apples on a tree and know the highest price which they will command on the market. But however the crop is sold it is well for the orchardist to have the picking under his control, as trees are often injured by picking limbs and twigs broken by careless pickers. Stepladders are best to pick from, and if plenty of these of suitable sizes are provided it will not be necessary to do much of the picking from inside the tree.

Apples intended for winter or spring use should be picked as soon as the seeds have turned brown and before the fruit has fully ripened. In order to prevent bruising and consequent decay, it is essential that apples be handled with extreme care. Instead of dropping or pouring the apples into baskets and barrels, they should be carefully laid in. All varieties should be sorted into at least three grades—first class, culls and near by falls, and each grade should be as nearly as possible uniform in size and quality. It is poor policy to allow a few inferior specimens to spoil the sale or lower the price of a good lot of apples.

In hauling loose apples to market the wagon box should be lined with clean hay or straw and the fruit covered with a blanket. Never put them in sacks. On account of the heat and uneven temperature to which they will be subjected it is rarely advisable to pile apples in the orchard. Better take them at once to a cave or cellar.

Some have had good success in packing apples in oats from which all dirt and dust have been fanned. The grain absorbs the moisture arising from decaying fruit, and is not itself injured from feeding purposes.

Apples are sometimes stored in shallow trenches and allowed to freeze, after which they are deeply covered with straw and dirt. If allowed to thaw out gradually in the spring it is claimed they are uninjured by freezing. The prime essentials for a cave for apples are low, even temperature, dryness and thorough ventilation. It is a difficult matter to secure this combination of desirable conditions.

Do not pile the apples in large masses, as this prevents the free circulation of air. More apples are ruined by heat than by cold. Keep the temperature even and down as near the freezing point as possible, taking care that it does not get below that point. Apples are constantly giving off impure gases and if these are not carried off by means of thorough ventilation decay will result.

AUTUMN TREE PLANTING.

Those who set out trees in the autumn should remember one very important thing: That is, trees set out in the fall need a liberal supply of water. The reason for this is obvious, writes a correspondent in the "N. Y. Farmer."

Usually in autumn the ground is very dry, as the rainfall is usually light during August and September. Besides being dry, the soil is also warm in the fall. In dry and warm soil the roots of the newly set trees will actually lose a part

of their moisture to the drier soil by absorption.

What is needed is that the transplanted trees shall put out new rootlets, so as to be in shape for active growth in the following spring. If the soil in the fall be too dry, the trees will not be able to put out new roots then. When spring comes, they may not be able to put out any new roots and so may die.

The danger may be averted by making sure that the soil around the newly set tree shall receive enough moisture to insure the starting of new roots promptly. The warmth in the soil is one of the requirements to insure root growth, and the moisture is the other requirement. In fall planting the horticulturist can control these two essentials in all ordinary seasons.

The large losses of trees so often reported in fall planting are mainly traceable to the want of moisture in the soil. Most surely this was the cause of some large losses that came under my observation during the past two years. One neighbor, in the dry fall of 1899, planted over 300 fruit trees. They were set on a slope.

In the spring of 1900 he found most of them dead. He sent for me to examine the situation. Investigation showed that all the trees on the highest quarter of the slope were dead. On the next higher quarter 90 per cent of the trees were dead. On the third quarter about 30 per cent were dead. On the lowest quarter all the trees were alive but one or two. The suggestion was plain. On the highest quarter of the slope the land was so dry that no tree had been able to put out



CHARLES C. BELL, Treasurer, Missouri State Commissioner to the Pan-American and Charleston Expositions.

roots in the fall. On the next quarter below there was enough moisture to save 10 per cent of the trees set out. On the next lower quarter there was moisture enough to start the roots of 70 out of 100 trees. On the lowest part the moisture was sufficient to save all the trees, except the one or two that died from some other cause than want of water.

The suggestion was confirmed by digging around the roots of the young trees. Those that died in the two upper quarters of the slope showed no rootlets formed at all. Those that were alive showed a good rootage formed in the fall.

Had irrigation been possible on the higher part of the orchard, all the trees would have grown. In such cases the orchardist should size up the season and the lay of his land.

In the fall of 1900 more trees were placed on the upper parts of the same slope. Again the roots failed to form. Last spring I examined the second dead crop of trees, and found that all of them had died for want of water. Other similar cases have come to my notice, and all have impressed me with the necessity of providing abundant irrigation for fall-set trees when the season has been very dry.

MAKE PACKAGES TO SUIT YOUR MARKET.

The fancy quality of farm and garden produce sells first and at the highest prices and it is doubtful whether it pays to ship produce to distant markets that will not rank as first-class in quality, neatness, measure and style of package, says a correspondent in the "Indiana Farmer."

Every shipper should ascertain what style crate or package is most popular with the retail markets where he intends to ship, and use that kind, for mixed packages are not so popular as some standard package. After procuring clean, standard style packages or crates, fill with heaping measure, with as good quality at bottom of package as at the top. With a heaping measure of the best produce in clean popular sized packages, it is a good advertisement for the producer to have his name and address neatly printed upon every package, which will soon pass upon the market as a guarantee of good quality. Inferior produce should be sold upon the local market, where it will not be subjected to the jar and delay in shipping.

Wood ashes contain the mineral elements of plant food, especially potash, which tends to give sweetness and firmness to the fruit, and strength to the plant. Wood, hard wood ashes, uncleaned, are well worth twenty-five cents per bushel for this purpose.

TO BREED SPECIAL WINES.

Blacksburg, Va., Sept. 14.—In the mycological laboratory of the Virginia Agricultural Experiment Station Prof. Alwood, the head of the department, has been working for some years in an experimental way on a study of the fermentation of fruit juices, and last year went abroad to study in the French and German laboratories the methods of isolating and cultivating special germs for the manufacture of wines and other beverages from fruits.

In answer to a question, Prof. Alwood stated that for some years the theory has been quite strongly advanced by certain Frenchmen, and in a more conservative manner by certain German scientists, that the special quality of wine in any particular district is due to the organisms which produce the fermentation, and that by isolating these organisms and using them in fruit juices, wines or beverages of like quality can be produced practically without regard to where the fruit is grown or the variety of fruit. The theory has already been slightly exploited in the public press, and has gained much attention. Until Prof. Alwood's visit abroad, however, no American had undertaken to master the details of the work in the foreign laboratories.

As the professor sat surrounded by his hosts of vials and tubes and various sorts of glassware containing germs which he had collected in Europe, and also in America, he proceeded to explain the theories and possibilities of the work.

"This little vial," he said, "contains the germs which produce the famous French Sauterne wines, and this other the Bordeaux, and here is a vial of germs isolated from the finest of French champagnes. Then in this other collection here we have the germs of the famous Rudesheimer white wines, and in this other tube are the germs of the Laureiro, and here we have a whole collection from the famous Rhine wines. "And what are these germs? Are they some sort of tiny animal that affect the fermentation?"

"Oh, no; not at all. They are simply minute vegetable organisms, which find the juices of fruits the proper soil or medium in which to effect their growth, and, by this growth, they consume the sugar of the fruit juices, producing alcohol equal to about half the weight of sugar, and the remainder of the sugar escapes as gas, which causes the appearance spoken of as working or fermentation."

"And do you say that plants cause fermentation? Can one see them?"

"Yes, most assuredly, fermentation is simply a result of the growth of yeast plants. This same phenomenon is what causes bread to rise."

"You cannot see them, that is, not with the unaided eye, because they are only about one-tenth-thousandth of an inch in diameter, and each is unicellular. These tiny cells produce daughter cells by budding and so on, indefinitely, until the sugar substance in the liquid is consumed, when the liquid comes to rest and fermentation is practically completed."

"What of the theory that these organisms affect the quality of the liquor? How is that possible?"

"This does appear strange, and from my own work I am inclined to very much modify some of the statements that have been made in regard to these germs affecting the wines or other fruit beverages. But it is true that there are good germs and bad germs. There are germs which will produce strong, even fermentation, carrying the same on regularly until the sugar is consumed; and there are other germs which will not produce this fine character of fermentation, and appear quite incapable of breaking up all the sugar. Then, some germs leave a cloudy liquid which is difficult to clear. Further, these various germs appear to be able to produce different odors, which naturally affect very much the bouquet of the liquor produced."

"My statement of the possibilities of using these germs to affect quality is put as follows: Given a proper variety of fruit grown on favorable soil, and the juice expressed in the proper manner, so as to guard its cleanliness. Sow at once with a strong culture of a good yeast. This will be able to obtain such control of the liquid that the bad germs are quite crowded out, and eventually the proper germ remains in entire possession of the field. Thus the character of the germ will be given in considerable measure to the resulting liquor. But to say that any fruit juice containing even the requisite quantity of sugar and other matters can be fermented into a Sauterne, a Bordeaux, a sherry, or other special wines at the will of the operator, is certainly very far from what the known facts warrant."

"Then the great expectations of this work are not to be realized?"

"Yes, the extreme statements are never to be realized, in my opinion, but the complete investigation of the subject is not half finished. I have progressed far enough to feel warranted in saying that when we have studied carefully the organisms found in any district and employed those having the best character to produce the fermented fruit beverages of that district, this will result in a wonderful advance in regard to the quality of the various fruit beverages produced."

FIRST GREENING APPLE TREE IS STILL STANDING.

The American Cultivator says that the original greening apple tree is still standing on the farm of Solomon Drowne at Mount Hygeia, in North Foster, R. I. The tree was a very old one when the farm was sold in 1801. The seller informed the purchaser that it was a pity the old tree was going to decay, as it produced the best fruit of any tree in the orchard. The purchaser determined to see how long he could keep it alive, and it still survives after almost another century has been added to its venerable years. But it shows signs of final decay, and the parent of all the famous Rhode Island greenings, which has set its grafts on the orchard of almost all the world, will soon be but a neighborhood memory.

THE RASPBERRY CANES.—See that all the old or diseased or weak canes of raspberries have been cut out close to ground and burned. Later in October or the first of November cut off one-third of the tops of what is left before laying down for winter. This severe pruning is important. It must be done or your patches will run out. Now bury the tips of the black and purple kinds for plants and avoid all weak or diseased bushes. The early varieties should have tips laid or buried during the last half of August. Keep weeds mown on strawberry beds.—The Fruitman.

APPLES INTENDED FOR CIDER should not be piled on the ground, for they will soon acquire an earthy flavor, says the "Orange Judd Farmer." This will taint the cider and lower its quality.

Neither should they be stored in closed bins without free circulation of air. Decay soon sets in and loss of quality is sure to result. Lay down some boards under the trees and upon these place the apples which are to go to the cider mill. They will keep very well in that way, but it is advisable to get them to the mill as soon as possible.

"Oh, no; not at all. They are simply minute vegetable organisms, which find the juices of fruits the proper soil or medium in which to effect their growth, and, by this growth, they consume the sugar of the fruit juices, producing alcohol equal to about half the weight of sugar, and the remainder of the sugar escapes as gas, which causes the appearance spoken of as working or fermentation."

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Having ascertained the number of pounds required by each colony, if there should be a shortage after "swapping" full combs for empty ones (as far as they will go) then sugar syrup is the next best thing.

MAKING SYRUP.—In feeding sugar syrup it must be remembered that pound for pound it is not equal to honey. That is, the syrup contains less sweet per pound than the honey, and it is the sweet that counts as bee food. Our manner of syrup making is a very simple one. If early enough in the season to give cold feed we mix 25 pounds of water in the extractor and drive the machine at a good speed, slowly pouring in 50 pounds of the best granulated sugar. In less than ten minutes the mixture is perfect, when it may be fed. This style of syrup we only consider good for September. For the middle of October the syrup must be fed warm, and is made of sugar, 30 pounds, water, 15 pounds, honey, 5 pounds. In making the syrup be careful not to burn it in the least or the result may be serious to the bees. It is ready to take from the fire as soon as all the sugar is dissolved; boiling is not necessary; stir in the honey after taking from the fire. If properly made this is a syrup that will keep indefinitely without either granulating or turning sour.

FEEDING.—As to feeders and feeding there are as many different methods as there are bee keepers. But we have long since settled down to what we think the best and least expensive way of feeding in winter. Before starting to feed, each colony should have a quilt of ducking (made to its exact) placed on top of the frames so that when the cover is removed the bees cannot get up to annoy the operator. When ready to begin operations go around to each colony requiring to be fed, leaving beside it an empty super to hold the feeder. Next, weigh the number of pounds required into a common milk or bread pan, and cover over with cheese cloth to keep the bees from drowning in the syrup. When placing this on the hive turn back one corner of the quilt to allow the bees to get up and down, and be very careful that everything fits tight, so that robbers may not get a start. Feeding at this season of the year must be done at night, or at least after bees have quit flying for the day. A good strong colony will often carry down from 15 to 20 pounds in one night. It is very important that those having to feed do so as early as possible, in order to allow the bees time to seal their stores over, otherwise the weather will soon be too cold for them to secure wax.

CLEANING COMBS.—All extracted combs, and, in fact, all combs that have a little honey in them, should be returned to the bees in order to keep them from swarming. We have sometimes been annoyed by bees putting the honey they cleaned up from extracted combs back into the combs instead of carrying it down below where we want it. To get over that difficulty use the quilt the same as when feeding, and they will invariably put the honey down below.

SURPLUS CAPACITY FOR A COLONY OF BEES.

It is a hard matter to get impressed on the minds of farmers and others keeping a few colonies of bees as a sort of side issue, that a hive of bees needs more than a ten-pound box to store surplus honey in, writes A. H. Duff. It is certainly a dead loss of a large amount of surplus honey to thus manage them, and in every case where the bees do well it results in swarming, where if they had a large surplus capacity, the bees would content themselves storing honey, and in most cases remain without swarming.

Some may not object to swarming, and would prefer this kind of increase, in which case it is all right, but it is rarely so that the honey crop is not preferred, and the results would be greatly changed if more care were given in this particular. The surplus capacity should be fully as large as the hive containing the bees, and very frequently they need more. It is also a mistake often made by this class of beekeepers, that they allow the honey to remain on the hives perhaps until fall, thinking it takes all summer for the bees to complete. Honey should be taken off the hives promptly as soon as completed, and as often as it is ready to remove.

If bees are not in the regular standard frame hives, but in some ordinary box, they should be transferred into hives that are suited for the best management, for it will surely pay to thus keep them, but in cases where they cannot be so managed at the present, arrange the top of the box so that you can use some improved method of obtaining surplus, by using some of the late supers with section boxes. This can be done with almost any hive in some way or other, and by so doing you get the benefit of at least part of the improved methods. The entire top may be taken off an ordinary box that bees may be in, and the new supers fitted in some way that will give good returns, even if the whole is a bungling-looking affair.

An automatic hiver was employed to demonstrate its recommended value in doing away with the necessity for watchfulness of the apiarist in the hiving of swarms and the prevention of their escape. The results were unsatisfactory, as the honey produced was of small amount and the hivers were found not to restrain the tendency to swarm, after it had once been established, until all the queens had been destroyed or otherwise disposed of.

FOOD REQUIRED.—As previously stated, it pays to be accurate in the matter of feeding for winter. In this latitude we consider 20 pounds of stores sufficient for indoor wintering, and 25 to 30 for outdoors. The best way to ascertain the condition of each colony is to put it on the scales. First weigh a hive containing empty combs, and then add five pounds to its weight for bees and pollen. Then weigh each colony to find out whether it needs help or can afford to help some less fortunate neighbor, making a note of each one as weighed. We always reckon a colony O. K. for winter that has got four Langstroth combs of solid honey, or what would be equivalent to that amount of comb surface. A Langstroth comb well-filled holds five pounds, good weight.

## Grain

lodging means straw weakened because the fertilizers are not well balanced.

## Potash

in fertilizers prevents this and improves the grain.

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# Live Stock

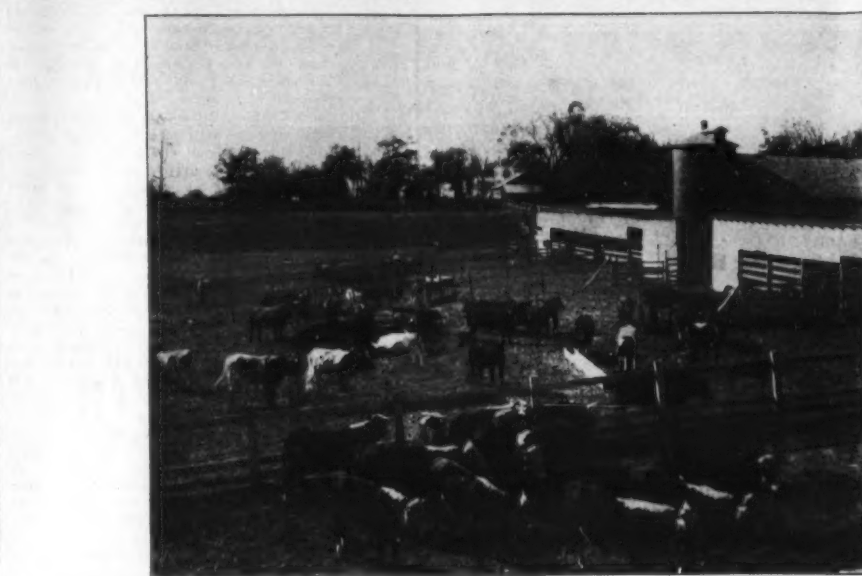
## DATE CLAIMS FOR LIVE STOCK SALES.

Oct. 2—E. S. Donahay, Newton, Iowa.  
Oct. 2—F. M. & O. B. Cain and Jas. Novinger & Sons, Novinger, Mo., at Kirksville, Mo. Shorthorn.  
Oct. 2—A. Alexander and R. G. Robb & Son, Morning Sun, Iowa. Shorthorn.  
Oct. 16-17, 1901—Estate of G. W. Kennedy, Oct. 16-17, 1901—National Galloway sale at Kansas City, under the auspices of the American Galloway Breeders' Association.  
Oct. 18—Douglas, Ill. Shorthorn.  
Nov. 5-6—B. O. Cowan, New Point, Mo., and W. T. & H. R. Clay, Plattburg, Mo., at Kansas City. Shorthorn.  
Nov. 19, 1901—L. A. Novinger & Sons, Shorthorn, Kirksville, Mo.  
Dec. 10, 11, 12 and 13—Kirk B. Armour and Jas. A. Funkhouser, at Kansas City. Hereford cattle.  
Dec. 18—C. D. Bellows, Maryville, Mo., at South Omaha. Shorthorn.  
Dec. 18-19, 1901—Gudger & Simpson, C. A. Stannard and Scott & March, Hereford, at Fort Worth, Tex.  
January 23 to 25, 1902—Sothams' annual Cattle Sale, at Kansas City.  
Jan. 15 and 16—Cornish & Patten, Osborn, Mo., and others, at Kansas City, Mo. Hereford cattle.  
Feb. 11-12, 1902—Edwards Anstey, Boyles and others, at South Omaha. Hereford cattle.  
March 6-7, 1902—M. Forbes & Son, Henry, Ill.; J. P. Prather, Williamsburg, Ill.; C. B. Frasier, St. Louis, Mo.; C. B. D. Dustin & Son, Sumner, Ill.; J. T. Wornall, Mosby, Mo., and others, at South Omaha.  
March 11—W. P. Nichols, West Liberty, Iowa. Shorthorn.  
June 15—C. E. Lane, Danville, Ind., at Indianapolis. Double Standard Polled Durham.  
The "National Hereford Exchange" under management of T. F. B. Botham, as follows:  
March 22-23, 1902—East St. Louis.  
April 23-24, 1902—Kansas City.  
May 27-29, 1902—Omaha.  
June 30-31, 1902—Chicago.  
Oct. 4—J. W. Funk, Haworth, Ill.  
Oct. 11—T. Williams, Russellville, Mo.  
Oct. 17, 18, 19, 20—American Angus Cattle Show and Sale, W. T. McIntire, Kansas City, Mo.  
Oct. 21—G. E. Leslie, Memphis, Mo.  
Oct. 22—E. E. Smith, Oak Grove, Mo.  
Oct. 23—J. T. Robinson, Bates City, Mo.  
Oct. 24—F. H. Schoeller, Rockport, Mo.  
Oct. 25—W. N. Winn & Son, Kansas City, Mo.  
Oct. 26—T. H. Martin, Kansas City, Mo.  
Oct. 27—C. E. Fogus, Findlay, Ill.  
Nov. 4—J. W. Williams, El Paso, Ill.  
Nov. 6—H. O. Minnis, Edinburg, Ill.  
Nov. 6—C. B. Brown, Heyworth, Ill.  
Nov. 7—D. J. Walters, Kunkin, Ill.  
Nov. 8—W. R. Lovelass, Gibson City, Ill.  
Nov. 12—A. G. Woodbury, Danville, Ill.  
Nov. 13—E. H. Wain, Douglas, Ill.  
Nov. 14—E. L. Jimison, Onida, Ill.  
Nov. 15—W. J. McKibben, Garden Prairie, Ill.  
Nov. 19—Victor Wiley, Fuller, Ill.  
Nov. 20—H. G. Davis, Woodland, Ill.  
Nov. 21—J. H. Pink, Kewanee, Ill.  
Oct. 25—Kansas City, Mo. Galloway sale.  
ABERDEEN ANGUS CATTLE.  
Oct. 4—Combination sale, W. C. McGavock, mgr., Springfield, Ill.  
Oct. 17-18—National sale, W. C. McGavock, mgr., Kansas City.  
Dec. 2-6—International sale, W. C. McGavock, mgr., Chicago.  
Feb. 4-6—Combination sale, W. C. McGavock, mgr., Chicago.  
April 10-11—Combination sale, W. C. McGavock, mgr., Kansas City.  
June 10-11—Combination sale, W. C. McGavock, mgr., Kansas City.  
NATIONAL SHORTHORN SHOWS.  
Oct. 16-25—Kansas City, Mo.  
Nov. 15—Kansas City, Mo.; Messrs. B. B. and H. T. Grooms of Steaks Plains Farm of Panhandle, Tex.  
Nov. 7—At Sturgeon, Mo.; by Messrs. J. J. Littrell, Dr. J. F. Keith, E. S. Stewart, all of Sturgeon, and J. H. Cottingham of Clark, Mo.  
Dec. 2-7—Chicago, Ill.  
Dec. 5-6—Chicago.  
NATIONAL HEREFORD SHOWS.  
Sept. 21-26—Kansas City, Mo.  
Sept. 23-28—Louisville, Ky.  
Oct. 16-25—Kansas City, Mo.  
Dec. 2-7—Chicago, Ill.  
NATIONAL HEREFORD SALES.  
Sept. 24-25—Louisville, Ky.  
Oct. 22-24—Kansas City, Mo.  
Dec. 4-6—Chicago.

## VALUE OF A BALANCED RATION.

In the September Bulletin of the Missouri State Board of Agriculture there is a discussion of the Balanced Ration subject by Prof. H. J. Waters, Dean of the Agricultural College, a portion of which we present below, and which we commend to the thoughtful consideration of our readers. We also present above, by the courtesy of Secretary G. B. Ellis of the Board of Agriculture, a cut showing where the experiments referred to were carried on.

**EXPERIMENTS IN WINTERING STEERS.**—This matter of a balanced ration has been under consideration for many years, during which time it has been discussed in our agricultural papers, in the farmers' institutes and in bulletins of the Experiment Station to such an extent that most farmers fully appreciate its importance and well understand the principles involved. So if the space here allotted to me were used in explaining these principles and in pointing out why a properly balanced ration will make a larger gain than one not properly balanced, you would say that you understand this and grant all that has been said, but the important point is how to bring this about; what shall be pointed out to the practical farmer, such as corn, corn fodder, millet, sorghum, millet, timothy hay, wheat and oat straw, when used either singly or in combination with each other form an unbalanced ration, or one that is deficient in muscle-making material, and that it is essential to add something else to such feeds to promote the best and most economical growth. The question would naturally arise: What shall it be? If I should suggest that linseed meal, cotton seed meal, ship stuff and feeds of that kind be purchased, you would immediately



CATTLE FEEDING YARDS AT THE MISSOURI AGRICULTURAL COLLEGE.

ly ask if these materials are not so expensive that the extra gain obtained would fall to meet the increased cost with the ordinary class of stock. I am not addressing my remarks to the breeder of fine stock just at this moment, but to those who handle stock of the ordinary grade. It would be necessary to say that under many circumstances it would not pay to use these expensive feeds. Fortunately, however, it is possible to remedy this difficulty to a large degree without the purchase of such feeds and without materially changing our system of farming, merely by giving more attention to some crops with which all are already more or less familiar, but do not fully appreciate. For example, we do not fully appreciate the feeding value of clover hay. We are appreciating the value of this plant in improving our land, but we have not come to fully realize the superiority of this hay over timothy hay in the feeding of young stock. We appreciate the value of the cow pea as a soil renovator, but we do not appreciate the superiority of this hay over timothy and other such hays in making growth and gain and in putting flesh and bloom on beef cattle. If we examine the tables prepared for us by the chemist showing the proportion of muscle making and fat forming ingredients contained in this

gain in live weight, or that each bushel of corn produced 4.87 pounds of gain. (2) Another bunch of steers full fed on corn and cow pea hay ate rather more corn in the time they were on experiment than did the other lot and gained 1,257 pounds in 119 days, or at an average rate of 2.64 pounds per day instead of 802 pounds, or 1.69 pounds per day, as was the case with those getting corn and timothy hay. In this case only 8.31 pounds of corn were required for a pound of gain, which means that each bushel of corn produced 6.74 pounds of gain as compared with 4.87 pounds when the cattle had timothy hay for roughness. Here there is an increased gain of 455 pounds for four steers, or 114 pounds per steer in 119 days, or practically a pound per day, the large part of which must be fairly attributed to the superior feeding value of cow pea hay as compared with timothy.

These results agree with those of the previous year, and are worthy of the most careful consideration.

Note that when an improperly balanced ration was fed as was the case when corn and timothy were fed together the daily gain per steer was only 1.97 pounds, that a bushel of corn produced only 3 pounds of gain. When, however, clover was substituted for timothy the average

## COMPARISON OF DIFFERENT ROUGHNESS FOR FATTENING STEERS IN WINTER.

First Trial—Dec. 16, '99—April 14, 1900—119 Days—4 Steers in Each Lot.

| Kind of Feed.                    | Corn eaten, bushels. | Roughness eaten, pounds. | Total gain, pounds. | Av. daily gain per steer, pounds. | Pounds gain per pound of gain. | Gain per bushel of corn, pounds. |
|----------------------------------|----------------------|--------------------------|---------------------|-----------------------------------|--------------------------------|----------------------------------|
| Corn and timothy hay             | 381.3                | 322                      | 1,439               | 1.19                              | 11.51                          | 4.87                             |
| Corn and cow pea hay             | 368.2                | 125.7                    | 1,264               | 1.05                              | 8.31                           | 6.74                             |
| Corn, clover hay and corn fodder | 385                  | 182.6                    | 917                 | 1.94                              | 11.29                          | 4.96                             |
| *Clover hay. †Corn fodder.       | 188.9†               |                          |                     |                                   |                                |                                  |

class of feeds, we will find that clover hay will go a long way toward balancing such feeds as corn and corn fodder. If we examine the proportion of these ingredients in cow pea hay we will find that this hay will go almost as far in this direction as wheat bran. I do not mean to say that the cow pea hay is as valuable as the bran, ton for ton, for it is not quite so digestible, but as far as a balancing ration is concerned, it serves a valuable purpose.

This is not so only in theory, but a considerable number of dairymen in this and other states have found that by the use of this hay they are able to greatly reduce and in many instances entirely dispense with the larger bill for bran, etc., which they formerly had. One of the best dairymen in Boone County has not purchased a single ton of bran in the last three years, and tells me that he has produced more butter per cow in these years than ever before, and grows all the feed on his farm, viz: Corn, corn fodder and cow pea hay. You are, however, more interested in the results of careful feeding tests along this line. I therefore, invite your attention to the following table giving a summary of some of the feeding trials we have made, and will then dismiss the subject to take up some other phases of feeding.

These results were obtained at the Experiment Station during the last two winters with two-year-old steers, in which an attempt was made to compare several different feeds, which furnished rations balanced differently.

## SECOND TRIAL—JAN. 6, 1901—APRIL 16, 1901—106 DAYS—FOUR STEERS IN EACH LOT.

| Kind of Feed.                            | Corn eaten, bushels. | Roughness eaten, pounds. | Total gain, pounds. | Av. daily gain per steer, pounds. | Pounds gain per pound of gain. | Gain per bushel of corn, pounds. |
|--|----------------------|--------------------------|---------------------|-----------------------------------|--------------------------------|----------------------------------|
| Corn and timothy hay                     | 157.5                | 216.0                    | 789                 | 1.37                              | 11.19                          | 5.00                             |
| Corn and clover hay                      | 176.2                | 470.8                    | 1125                | 2.84                              | 5.69                           | 6.44                             |
| Corn and cow pea hay                     | 175.2                | 478.3                    | 1124                | 2.84                              | 5.65                           | 6.47                             |
| Corn, clover and corn fodder             | 176.2                | 247.5*                   | 1140                | 2.85                              | 5.30                           | 6.74                             |
| Corn, clover and wheat straw             | 169.0                | 296.7                    | 1073                | 2.68                              | 9.21                           | 6.08                             |
| *Clover hay. †Corn fodder. ‡Wheat straw. | 119.6†               |                          |                     |                                   |                                |                                  |

The cattle comprising each lot were as nearly uniform in breeding and quality as it was possible to get them and all were fed under precisely the same conditions, at the same time and treated in all respects alike except that the feed was different for each group, as shown in the table.

It will perhaps facilitate the study of these results somewhat if we compare the gain of each bunch of steers with the bunch that was fed corn and timothy hay. This is a standard ration the country over for fattening cattle, and for this reason it is selected as the standard in these experiments.

(1) It will be observed that the four steers getting all the corn and timothy hay they would eat, gained 802 pounds in 119 days, or at the rate of 1.69 pounds per day per steer; that 11.51 pounds of grain were required for each pound of

This is universally true. Such materials as cotton seed meal, linseed meal, wheat bran, clover hay and cow pea hay may be depended upon to give to the coat of a fat steer an extra gloss that will materially add to his selling qualities on the market.

## CATTLE AWARDS AT THE PAN-AMERICAN CATTLE SHOW.

SHORTHORN—Herd—First prize, W. D. Flatt, Hamilton, Ont.; second, W. A. Boland, Grass Lake, Wis.; third, Thomas Greenway, Crystal City, Man.  
Bull, three years or over—First prize, W. D. Flatt; second, W. A. Boland; third, W. D. Flatt; fourth, Bronson C. Rumsey, Buffalo, N. Y.; fifth, Thomas Greenway; sixth, McDonald Bros., Woodstock, Ont.  
Bull, two years and under three—First

prize, W. D. Flatt; second, Thomas Greenway; third, J. & W. B. Watt, Salem, Ont. (not entered for cash prize).  
Bull, one year and under two—First prize, W. D. Flatt; second, Thomas Greenway; third, D. R. Hanna, Ravenna, Ohio; fourth, W. A. Boland; fifth, Bronson C. Rumsey.

Bull, under one year—First prize, J. & W. B. Watt; second, W. A. Boland; third, W. D. Flatt; fourth, W. & J. B. Watt; fifth, Bronson C. Rumsey.  
Cow, three years or over—First prize, W. D. Flatt; second, W. D. Flatt; third, Thomas Greenway; fourth, W. D. Flatt; fifth, W. A. Boland.

Heifer, two years and under three—First prize, W. A. Boland; second, W. D. Boland; third, D. R. Hanna; fourth, Thomas Greenway; fifth, Thomas Greenway.

Heifer, one year and under two—First prize, W. A. Boland; second, W. D. Flatt; third, D. R. Hanna; fourth, Bronson C. Rumsey.  
Heifer calf—First prize, W. A. Boland; second, McDonald Bros.; third, W. D. Flatt; fourth, Bronson C. Rumsey; fifth, Thomas Greenway.

Sweepstakes, bull, any age—First prize, W. D. Flatt.  
Sweepstakes, cow, any age—First prize, W. D. Flatt.

HEREFORD—Herd—First prize, Clem Graves, Bunker Hill, Ind.; second, C. G. Comstock & Son, Albany, Mo.; third, H. D. Smith, Compton, Quebec; fourth, W. W. Black, Amherst, N. S.

Bull, three years or over—First prize, H. D. Smith; second, W. W. Black; third, C. G. Comstock & Son, Albany, Mo.

Bull, two years old and under three—First prize, Clem Graves; second, H. D. Smith.  
Bull, one year and under two—First prize, Clem Graves; second, W. W. Black.  
Bull, under one year—First prize, C. G. Comstock & Son; second, W. W. Black; third, H. D. Smith.

Cow, three years or over—First prize, C. G. Comstock & Son; second, H. D. Smith; third, Clem Graves; fourth, W. W. Black.  
Heifer, one year and under two—First prize, Clem Graves; second, C. G. Comstock & Son; third, Clem Graves; fourth, W. W. Black.

Heifer calf—First prize, Clem Graves; second, C. G. Comstock & Son; third, C. G. Comstock & Son; fourth, Clem Graves; fifth, W. W. Black.

Sweepstakes, bull, any age—First prize, H. D. Smith.  
Sweepstakes, cow, any age—First prize, C. G. Comstock & Son.

GALLOWAY—Herd—First prize, Otto H. Swigart, Champaign, Ill.; second, D. McCrae, Guelph, Ont.  
Bull, three years or over—First prize, D. McCrae; second, Otto H. Swigart.

Bull, two years and under three—First prize, Otto H. Swigart; second, D. McCrae.  
Bull, one year and under two—First prize, Otto H. Swigart; second, D. McCrae.

Cow, three years or over—First prize, Otto H. Swigart; second, Otto H. Swigart; third, D. McCrae; fourth, Otto H. Swigart.

Heifer, calf—First prize, D. McCrae; second, Otto H. Swigart; third, Otto H. Swigart; fourth, Otto H. Swigart; fifth, D. McCrae.

Sweepstakes, bull, any age—First prize, D. McCrae.  
Sweepstakes, cow, any age—First prize, Otto H. Swigart.

RED POLLED—Herd—First prize, Andrew Bros., Cedarville, O.; second, Frank Hartline, Strasburg, O.  
Bull, three years or over—First prize, Frank Hartline; second, Andrew Bros.

Bull, two years and under three—First prize, Frank Hartline.  
Bull, one year and under two—First prize, Andrew Bros.; second, Frank Hartline.

Bull, under one year—First prize, Andrew Bros.; second, Andrew Bros.; third, Frank Hartline; fourth, Frank Hartline.  
Cow, three years or over—First prize, Andrew Bros.; second, Frank Hartline; third, Andrew Bros.; fourth, Frank Hartline; fifth, Andrew Bros.

Heifer, two years and under three—First prize, Frank Hartline; second, Andrew Bros.; third, Andrew Bros.; fourth, Andrew Bros.

Heifer, one year and under two—First prize, Andrew Bros.; second, Frank Hartline; third, Frank Hartline; fourth, Andrew Bros.

Sweepstakes, bull, any age—First prize, Frank Hartline.  
Sweepstakes, cow, any age—First prize, Andrew Bros.

D. Edson; third, A. C. Green & Sons; fourth, Mrs. S. A. F. Servin.  
Bull, one year and under two—First prize, Frank R. Sanders; second, Mrs. S. A. F. Servin; third, Frank D. Edson; fourth, A. C. Green & Sons.

Bull, under one year—First prize, Frank R. Sanders; second, Mrs. S. A. F. Servin; third, Frank D. Edson; fourth, Frank R. Sanders; fifth, A. C. Green & Sons.

Cow, three years or over—First prize, Mrs. A. F. Servin; second, Frank R. Sanders; third, Frank D. Edson; fourth, Frank D. Edson; fifth, Mrs. S. A. F. Servin.

Heifer, two years and under three—First prize, Frank D. Edson; second, Mrs. S. A. F. Servin; third, Mrs. S. A. F. Servin; fourth, Frank R. Sanders; fifth, A. C. Green & Sons.

Heifer, one year and under two—First prize, Mrs. S. A. F. Servin; second, Mrs. S. A. F. Servin; third, Frank D. Edson; fourth, Frank R. Sanders.

Sweepstakes, bull, any age—First prize, Frank R. Sanders.  
Sweepstakes, cow, any age—First prize, Frank D. Edson.

ABERDEEN-ANGUS—Herd—First prize, D. Bradfute & Son, Cedarville, O.; second, James Bowman, Guelph, Ont.; third, James Blair, Esplanade, Pa.; fourth, H. H. Davis, Triumph, Ill.

Bull, three years or over—First prize, D. Bradfute & Son; second, James Bowman; third, James Blair.

Bull, two years and under three—First prize, H. H. Davis, Georgetown, Ky.; second, D. Bradfute & Son; third, James Blair.

Bull, one year and under two—First prize, James Blair; second, H. D. Allen; third, D. Bradfute & Son; fourth, H. D. Allen; fifth, F. W. Phillips.

Cow, three years and over—First prize, D. Bradfute & Son; second, D. Bradfute & Son; third, James Blair; fourth, James Bowman; fifth, James Bowman.

Heifer, two years and under three—First prize, D. Bradfute & Son; second, W. H. Davis; third, James Bowman; fourth, James Blair; fifth, D. Bradfute & Son.

Heifer, one year and under two—First prize, James Blair; second, D. Bradfute & Son; third, H. C. Allen; fourth, H. C. Allen; fifth, H. C. Allen; sixth, James Bowman; seventh, H. H. Davis.

Heifer calf—First prize, H. C. Allen; second, D. Bradfute & Son; third, James Blair; fourth, D. Bradfute & Son; fifth, James Bowman.

Sweepstakes, bull, any age—First prize, H. C. Allen.  
Sweepstakes, cow, any age—First prize, D. Bradfute & Son.

DEVON—Herd—First prize, James Hilton & Bro., New Scotland, N. Y.; second, W. H. Davis; third, James Hilton & Bro. W. H. Davis; second, James Hilton & Bro.; third, A. S. Worden, Hylton, Pa.; fourth, James Hilton & Bro.; fifth, Stockwell & Gifford, Sutton, Mass.

Bull, two years and under three—First prize, James Hilton & Bro.; second, W. J. Rudd; third, W. H. Davis; fourth, W. J. Rudd; fifth, W. H. Davis.

Bull, one year and under two—First prize, James Hilton & Bro.; second, James Hilton & Bro.; third, W. J. Rudd; fourth, W. H. Davis; fifth, W. J. Rudd; sixth, W. H. Davis.

Cow, three years or over—First prize, James Hilton & Bro.; second, Stockwell & Gifford; third, Stockwell & Gifford; fourth, Stockwell & Gifford; fifth, W. H. Davis.

Heifer, two years and under three—First prize, A. S. Worden; second, James Hilton & Bro.; third, W. H. Davis; fourth, W. J. Rudd; fifth, Hylton & Bro.

Heifer, one year and under two—First prize, James Hilton & Bro.; second, W. J. Rudd; third, A. S. Worden; fourth, Stockwell & Gifford; fifth, W. H. Davis.

Heifer calf—First prize, James Hilton & Bro.; second, W. J. Rudd; third, James Hilton & Bro.; fourth, W. J. Rudd; fifth, W. H. Davis.

Sweepstakes, bull, any age—First prize, James Hilton & Bro.  
Sweepstakes, cow, any age—First prize, James Hilton & Bro.

STOCK SALES AT KANSAS CITY.  
Representative sales of cattle and hogs made last week at Kansas City by the Evans-Snyder-Buel Company were as follows:

W. C. Brooks, Kansas, 108 canner cows, average 77 lbs., at \$2.35; also 122 canner steers, average 77 lbs., at \$2.35.

Olmes & Snyder, Kansas, 237 wintered Texas steers, average 92 lbs., that sold for \$3.40; also 239 wintered Texas steers, average 98 lbs., that sold for \$3.40, and 98 wintered Texas steers, average 89 lbs., that brought \$3.15.

Kennedy & Pumphrey, Indian Territory, 287 thorough Texas canners, average 83 lbs., at \$2.50.

H. M. Hall & Bro., Kansas, 92 thorough Texas steers, fine quality, average 73 lbs., at \$3.50; 56 of the same kind, average 76 lbs., at \$3.30; 28 wet cows, average 655 lbs., at \$2.50; 22 good calves, average 166 lbs., at \$5. and 27 good calves, average 133 lbs., at \$3.25.

M. Harder, Kansas, 65 western steers, that averaged 102 lbs., at \$3.65.

Albert Kay, Kansas, marketed 82 steers at \$4.60. They averaged 1162 lbs. Wm. Hake, Kansas, 59 steers, average 1066 lbs., that sold for \$4.10.

T. J. Dickerson, Kansas, 54 steers that averaged 1225 lbs., and sold for \$5.70. J. W. Conker, Kansas, 55 1100 lb steers that sold for \$4.60.

R. Wormser, Kansas, 22 steers, average 1071 lbs., at \$3.75.

Fred Koster, Kansas, a bunch of 108 steers that averaged in weight 1073 lbs and brought \$4.25.

HOG SALES.—J. A. Jackson, Missouri, one load of mixed hogs at \$5.50; Geo. B. Conner, Indian Territory, one load Indian hogs at \$5.50; J. B. Langheim, Indian Territory, one load Indian hogs at \$5.50; Thos. Hitchcock, Kansas, two loads, one at \$5.35 and one at \$5.75; Thos. Price, Indian Territory, one load at \$5.35; Jno. Howard, Kansas, one load hogs at \$5.75; Anderson Paden, Arkansas, one load 85-lb hogs at \$4.70; P. H. Baughman, Kansas, one load of hogs at \$5.70; W. H. Simpson, Missouri, one load hogs at \$5.75.

## ST. LOUIS NATIONAL STOCK YARDS.

Market Report Furnished by Evans-Snyder-Buel Company.

CATTLE—Receipts in native division were moderate and prices were strong each day. Bulk of good, fat cattle were fully 10c higher than close of last week. There was not as large a proportion of good cattle here as last week. The best brought \$6.25 and were not what could be termed a strictly choice or fancy load. There was a liberal run of Kansas western grassers; best grades were about 10c higher than last Friday; common, medium and light weights were no more than steady.

The supply of cow and heifer butcher stock was limited. Choice grades were in strong demand at fully 10c higher price; medium and pretty good kinds were no more than steady. There is not enough of the best grades coming here to supply the demand. The run of stockers and feeders was moderate and prices towards close of week were a shade higher than on last on best grades, while common and medium classes were slow sale at barely steady values, and about as low as at any time during the season. Culling grades ruled about the same.

Bulls were in fair demand at steady prices. Very best grades of milk cows with calves were in strong demand and prices were 10c to 15c per head higher; medium grades were steady. Veal calf market showed some improvement, top \$5.75. Quotations based on present conditions of the market are as follows:

Best native beef steers, strictly fancy cattle, 1300 to 1600 pounds average, \$6.00; choice export steers, 1300 to 1600 lbs average, \$5.80 to \$5.95; good shipping and export steers, 1300 to 1600 lbs, \$5.60 to \$5.75; fat to medium shipping steers, 1300 to 1400 lbs, \$5.40; steers, 1300 to 1250 lbs average, full range, rough to best, \$4.75 to \$5.50; bulk of sales at \$4.60 to \$5.50; steers weighing less than 1000 lbs full range, \$2.75 to \$3.25, bulk sold at \$3.00 to \$4.00; feeding steers, fair to choice, 900 lbs and upwards, \$3.25 to \$4.00, the bulk at \$3.40 to \$3.65; common to choice stockers, \$3.00 to \$3.25; stock heifers, full range, \$2.50 to \$3.75; and the bulk at \$2.50 to \$2.75; fancy native heifers sell at \$4.50 to \$5.00, but there have been very few on the market; choice native heifers sell at \$4.20 to \$4.40; good native cows and heifers sell at \$3.50 to \$4.10; medium cows at \$2.50 to \$3.50; fair cows, \$2.00 to \$2.40; inferior, light and old cows sold at \$2.25 to \$2.50 and the bulk of all the cows sold at \$2.75 to \$3.00; canning cows sell at \$1.25 to \$1.75; veal calves, full range, \$6.00 per 100 lbs, bulk at \$4.50 to \$5.50 per 100 lbs; heretics and yearlings sold at \$2.50 to \$3.40 per 100 lbs, with the bulk at \$3.00 to \$3.25; bulls, full range, \$2.00, bulk of sales \$2.50 to \$3.25; stocker bulls sold at \$2.75 to \$3.75, the bulk at \$3.00 to \$3.25; during the week the milkers sold at a full range of \$2.00 to \$3.00 per cow and calf, the bulk of sales being at \$2.40 to \$3.00.

SOUTHERN CATTLE—Receipts for first three days of this week were about eight cars more than first four days of last. All markets were closed Thursday on account of the funeral of our late President. The market Monday and Tuesday on steers was steady to strong, and is 10c to 15c higher than close of last week. Receipts of cows and bulls have been liberal and the market ruled steady on heavy calves and active and strong on the light, desirable kinds. The demand has been good all week for all fat cattle.

During the week Texas and Indian Territory steers sold at \$2.75 to \$3.95, bulk at \$2.50 to \$3.50; cows and heifers at \$2.10 to \$2.35, mostly at \$2.50 to \$2.85; stags and oxen at \$2.00 to \$2.50, bulls at \$4.00 to \$5.00 per head, with the bulk at \$3.60 to \$4.00.

Arkansas and Tennessee steers, \$3.00 to 70 lbs average, sold at \$2.30 to \$2.55, and heifers at \$1.50 to \$2.50, the bulk at \$2.35, and bulls and oxen at \$2.00 to \$2.35.

HOGS—Receipts for week have been light and prices ruled higher each day, the extreme top being \$7.25, the high mark since 1888. A good clearance was made to-day at following values: Butchers and packers \$6.75 to \$7.25, Yorkers and shippers \$6.50 to \$7.00, heavy pigs \$6.25 to \$6.75, light pigs \$5.75 to \$6.25, rough heavies \$6.00 to \$6.50.

SHEEP—Receipts for week were moderate. First two days the market advanced 10c to 15c, but on Wednesday a decline of 15c was forced. Balance of week receipts were moderate and prices ruled steady with Wednesday's decline, bulk of the mixed lots consisting of ewes and wethers selling from \$3.25 to \$4.40, best lambs \$4.25 to \$4.50, stockers \$2.50 to \$2.75, fat bucks \$2.75 to







# Home Circle

Written for the RURAL WORLD.  
CIDER MAKING TIME.

Of all the pleasant seasons that bless this favored clime  
There is none more to my liking than  
cider making time.

When the winds in dappled orchards  
shake the glowing fruitage down,  
Like some of richest luster from some  
royal giant's crown  
Ev'ry one is blithe and busy from the  
farm hand to the child,  
As the fragrant fruit is gathered and in  
the wagon piled.

Hauling home the loads of apples is a  
task that all enjoy.  
From the horses to the master-to no  
nothing of the boy!  
For Sam and Jess (the horses), are al-  
lowed to eat their fill  
Of the mellow, fragrant apples as they  
wait upon the hill  
With many a huge mouthful of succu-  
lent young grass  
They snatch in the cool shadow of the  
scented sassafras.

Then the cider press whirrs gayly and  
the sweet brown juice flows out  
While vagrant butterflies and bees come  
flying round about  
And help themselves quite freely to the  
nectar as it drips.  
While many a sparkling glassful is  
drained by thirsty souls  
So away with gloom and sadness! Pung-  
letting as a crime!  
For earth has reached the Golden Age  
at cider making time.  
St. Louis Co., Mo. ADELA S. CODY.

Written for the RURAL WORLD.  
IRENE.

(Concluded from last week.)

In the room across the hall lies the  
dainty shell which was the abode of a  
young, innocent, beautiful soul one like  
morning, but now has winged its way  
above to still live in a more perfect  
world, after the shell shall have mingled  
with the earth, undistinguishable from it.  
How perishable is the outward beauty;  
how lasting the inward soul, and how we  
should nurse and cultivate that above all  
other beauties.

In this room lies the parent tree, from  
which this bud sprang and on like  
plucked, leaving the wound bleeding. The  
tree droops and for a time it seems im-  
possible to heal the wound from the  
loss of its flower, its life sap, for here,  
too, lies, apparently, the shell with the  
soul fled, the life spark dead. But not  
the soul is still there, for the kindly in-  
struction from the tried and faithful  
Hannah, at last prove this. The golden  
quiver, then open, the hands move lan-  
guidly, find their way to her forehead,  
where she pushes back the hair, as if its  
weight there were too much. At first  
she is bewildered, but soon with returned  
consciousness, all the sad reality crowds  
itself upon her mind, and she springs to  
her feet.

"Missus Edgley, you must keep quiet.  
It doan do no good you gwin' on like  
this. Mars Edgley will be comin' home  
to-night, an'—"

At this juncture old  
Hannah stops short, for there in the  
doorway stands a wee figure in white,  
about seven, with a ray of hazel declin-  
ing sunlight brightening the golden curls,  
which fall in unconfined disorder over her  
shoulders. The child has an expression  
of half fear, half appeal, and as she  
stands framed in the doorway, with the  
beautiful sunlight reflecting its fading  
glory upon her, she seems an inspiration  
from an artist's hand. Hannah points to  
this living piece of art, with awed ad-  
miration and adds in a reverent whisper:  
"You have that sweet child like you to  
comfort you, an' to live foah."

Mrs. Edgley looked in the direction  
Hannah's finger indicated. The picture  
was indeed a beautiful one, and brought  
an expression of warmth, all tenderness,  
into her before utterly hopeless eyes,  
which encouraged Eva to advance further,  
she having felt a childish awe and fear  
of intruding on her mother's sorrow.  
Mrs. Edgley took the wee one  
upon her lap and smothered down the re-  
bellious curls. There steals from her  
burning eyes a tear. Slowly it rolls  
down the fevered cheek and falls upon  
the angelic face of the beautiful child.

A mother's tear on the face of her liv-  
ing treasure. Pure the child—pure the  
tear. On the throne above He saw it  
all and smiled, and with His smile "he  
sun burst forth, and outside the win-  
dow a tiny bird sang a song of gladness  
at the declining day."

"Mamma, why does Irene sleep so long,  
is that why you feel so bad?" "Yes, pet,"  
she controls herself to say, nor would  
she speak falsely to this embodiment of  
truth and innocence. "Eva, dear; Irene  
is sleeping now in her little bed; papa  
will come home to us to-night, and to-  
morrow, pet, Irene is going to God's  
home, to wait for us to come to  
her, and when we will go when God  
sends for us as he has for her."

"Oh, mamma, can't we all go with  
Irene to-morrow?"

"Mamma and papa will go part of the  
way with her. We will take her to one  
of God's gardens here, where we will  
leave her, and the angels he has sent  
to meet her will carry the beautiful  
spirit to God's garden in heaven, where  
she will be happy—oh, so happy, and  
where she will wait for us."

Talking thus to the child relieved her  
own great grief. She realized now more  
than she had before, that there are those  
left behind who need her attention, and  
again comes that low, sweet whisper: "I  
will not leave thee comfortless. I will  
come unto thee by a law of accumulation that money  
begets money, and interest begets inter-  
est, and love begets love. Every thought-  
ful parent will return wiser from visiting  
the school."

MRS. MARY ANDERSON.  
Caldwell Co., Mo.

their greatest affliction, she became a  
swooning faint to this strong man's grief.  
The following day after they had left the  
cemetery and are again at home (oh that  
sad, lonely first home coming after a  
dear familiar form has left us) though  
she is desolate and lonely, she felt the  
invaluable and ineffable presence of her  
darling.

We will now leave them, husband and  
wife, to comfort each other. When sleep  
at last comes and closes their eyes, the  
Angels of Peace and Love hover over  
them and whisper of resignation and  
hope, which in solemn, sweet refrain  
floats out on the air and is caught up and  
carried by a sweet zephyr and planted  
in their sleeping, saddened hearts, a link  
from heaven to earth.

MAUDE CORRIE WESTBROOK.  
New York City.

Written for the RURAL WORLD.  
CLIFF REMINISCENT SKETCHES.

Along in the early sixties when the to-  
cin of war was sounding in the land,  
when every gale from the South was  
bringing to the people of the North the  
clash of a mighty conflict, when news  
of carnage and distress came daily, other  
scenes of less importance, but pre-  
sented with great results, were being en-  
acted.

In those days robbery and pillage were  
no infrequent occurrence, endangering the  
life and property of travelers, especially  
on the public highways, a band of high-  
waymen seemed to have operated exten-  
sively along the National road between the  
Wabash River and Vandallia, and many  
stories of depredations committed were  
in circulation, some of which were  
fiction, yet others were founded on facts.  
On one occasion a stage coach was  
held up by three armed men between  
where Altamont now stands, then known  
as Moundville, and Howard's Point, near  
what is now St. Elmo. The passengers,  
of which there were five men and two  
women, were obliged to dismount and  
were relieved of their valuables and  
money. The women were not closely  
searched, and one of them had a large  
amount of money on her person, which  
escaped the scrutiny of the robbers.

The alarm was given at Howard's Point  
and a posse of men started in pursuit of  
the robbers, but in the intervening time  
they had so far a start that they es-  
caped capture. The country and woods  
were searched in every direction, and the  
hunt continued for several days, but  
without avail. It was afterward learned  
that they had traveled northward through  
the forest and were secreted for a time  
in Cave Hollow, from which they after-  
wards emerged to commit other depredations.

In a raid made on a store in a vil-  
lage not far from Mattoon a few months  
afterwards two of the burglars were cap-  
tured. One of them confessed to partici-  
pation in many crimes, one of his ap-  
ologies being that of the stage robbery  
above related. He told the story of how  
they roamed through the wilderness for  
days and nights, of their discovery of the  
Hollow and cave and their sojourn  
in its solitude, of the burial of the booty,  
but his hiding place he never revealed.  
Effingham Co., Ill. DYDE.

Written for the RURAL WORLD.  
VISITING THE SCHOOL.

How many parents have children in  
school who have never spent a half day  
with them at the schoolhouse? Many  
know nothing of the teacher but his or  
her name, and the reports brought home  
by the children. If the children like  
the teacher, the parental heart is at ease,  
and assurance is felt that John and Mary  
stand framed in the doorway, with the  
beautiful sunlight reflecting its fading  
glory upon her, she seems an inspiration  
from an artist's hand. Hannah points to  
this living piece of art, with awed ad-  
miration and adds in a reverent whisper:  
"You have that sweet child like you to  
comfort you, an' to live foah."

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which encouraged Eva to advance further,  
she having felt a childish awe and fear  
of intruding on her mother's sorrow.  
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burning eyes a tear. Slowly it rolls  
down the fevered cheek and falls upon  
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A mother's tear on the face of her liv-  
ing treasure. Pure the child—pure the  
tear. On the throne above He saw it  
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est, and love begets love. Every thought-  
ful parent will return wiser from visiting  
the school."

MRS. MARY ANDERSON.  
Caldwell Co., Mo.

In a  
Glass of Water.

Put a handful of glassed  
coffee in a glass of water,  
wash off the coating,  
look at it; smell it! Is  
it fit to drink? Give

**LION COFFEE**

the same test. It leaves the water  
bright and clear, because it's just  
pure coffee.

Standard package insures uniform  
quality and freshness.

Written for the RURAL WORLD.  
FALL CLEANING.

Generally speaking, housekeepers pay  
much more attention to putting the house  
in order for summer than for winter, yet  
the fall cleaning is really of more im-  
portance as it saves a great deal of in-  
convenience and discomfort to have every-  
thing clean and in place before cold  
weather comes. It is not wise, however,  
to clean too early; the first "cool spell" in  
September is usually followed by warm  
weather, and it is best to wait until flies  
and other summer pests have disap-  
peared.

The first thing to be done in prepar-  
ing for fall cleaning is to have all the  
chimneys thoroughly swept, and the fur-  
nace, range and grate fires cleaned and  
examined by a competent workman. This  
writer frequently saw positive suffering  
from bitter cold weather. If there is any  
repainting to be done—carpenters' or mason's  
work—it should be finished before clean-  
ing as attempted. Where one has to wait  
for repairing, it is a good time to bring  
down blankets, furs and woolen gar-  
ments which have been packed away for  
the summer; after airing and brushing  
them, they may be put in their accus-  
tomed places, ready for use when the  
first unexpected cold snap comes.

When all is in readiness to begin clean-  
ing, the house should be swept from attic  
to cellar, and where it is necessary, car-  
pets taken up and floors washed. After  
the sweeping, the dust should be care-  
fully removed from painted and wood-  
work before they are washed. Some  
imagine this a waste of time; but it is  
an injury to the paint to wet them while  
dusty. The walls should be dusted with  
a long handled feather duster, then with  
a clean, dry cloth planned smoothly over  
a new broom, wipe them down evenly in  
a straight line.

The method of washing windows is  
much changed. The most approved idea  
now is to use little water on the glass  
itself, and no soap at all; a small amount  
of powdered borax in the water taking  
the place of soap. If the windows are  
very dirty, kerosene or alcohol and a  
little whiting will remove the soil. Spirits  
of ammonia in warm suds will clean  
paints, marble slabs and mantels nicely.

When all is finished wring a clean cloth  
out of hot, clear water in which a little  
alum or salt has been dissolved, and wipe  
well each breadth of the carpet, rubbing  
straight down the nap; change the water  
frequently. This will make the carpet  
look fresh and new.

ELIZA R. PARKER.  
Trimble Co., Ky.

Mothers will find "Mrs. Winslow's Soothing Syrup"  
the best remedy for Children's Teething.

A YOUNG PEDDLER.

"Want to buy some grass? Want to  
buy some leaves?" called Josephine as  
she walked toward mamma, holding her  
parasol over her head. As she came  
nearer she said: "Mamma, I'm a peddler;  
you must buy some grass."

"How much do you charge?" asked  
mamma.

"Five pennies," said Josephine.

"I have no pennies," said mamma; "but  
I will give you five kisses."

Josephine put up her rosy little mouth  
for the kisses and then gave mamma a  
bunch of grass.

"I once knew a little girl," said mam-  
ma, "who had smiles to sell."

"I have," said Josephine, and her face  
became beautiful as her lips and eyes  
smiled up to her mamma.

"That is worth twenty kisses," said  
mamma, giving them to her little girl.  
Just then baby began to cry.

"Go and give brother some smiles,"  
said mamma.

Josephine ran to the baby and talked  
to him, smiling all the time. His little  
face soon lighted up, too, and he did not  
cry any more, but the tears on his lashes  
glinted just as the raindrops do when  
the sun comes out.

There is great power in a smile, chil-  
dren; you can do much more with it  
than with a frown.

Have you not some smiles to spare?  
Try to remember that a pleasant look  
makes joy everywhere. It is like a sun-  
beam.—The Morning Light.

THE RIGHT SORT OF OVEN.

By using the following tests one may  
be reasonably sure of getting the proper  
heat for the various kinds of baking.

For sponge cake and pound cake have  
heat that will in five minutes turn a piece  
of white paper light yellow.

For all other kinds of cup cake use an  
oven that will in five minutes turn a  
piece of white paper dark yellow.

For bread and pastry have an oven that  
will in five minutes turn a piece of white  
paper dark brown.

When the oven is too hot at first a  
crust forms on the bread or cake, which  
prevents its rising. It is better, when  
baking bread and cake, to have the oven  
a little slow at first and increase the heat  
gradually.

When baking puff paste, the heat should  
be greater first and decrease later. This  
is to keep the paste in shape.

When the oven is too hot the tempera-  
ture may be reduced by putting in a  
pan of cold water.

When baking in an oven that is too hot  
at the top fill with cold water a dripping  
pan which is about an inch deep and  
place in the oven.—Selected.

SPICED GRAPES.

These make a delicious relish to serve  
with meats. The grapes are picked from  
the stem and the pulp and the skins sepa-  
rated. Put in the pulp in a kettle and  
cook until the seeds begin to separate.

The skins are put in another kettle with  
enough water to keep them from burn-  
ing. Strain the pulp through a sieve to  
remove the seeds, then add to the skins  
with the sugar, vinegar and spices. For  
five pounds of fruit use three pounds of  
sugar, three-fourths pint of vinegar, one  
teaspoon each of cloves, allspice and cin-  
namon. Boil until it is thick.

CARE.

Just now a gentleman said to Pa.  
As I stood listening: "Ah! to be  
As free from worry, to live as far  
From care as he!" and he patted me.  
If half what threatens my peace of  
mind—

Like income, rivals, affairs at school—  
Hung over him, he would hardly find  
The time to gabble like such a fool.

My conduct average is so low—  
This week it means my allowance  
stops—

My only asset; I'd like to know  
Don't that mean worry? There are no  
shops

That trust me, either! I've failed to  
teach

Myself the piece that they'll ask for  
there

In school to-morrow. To fear your  
speech

Will fall in public—ain't that a care?

Besides these troubles, my strongest  
friend

Has fallen deeply in love with Jess.  
And says my wooing of her must end,  
Or I'll get licked—and I will, I guess.

While I look forward to being lame  
With punches; nursing an empty  
purse;

A loss of sweetheart; a public shame;  
This man imagines his cares are  
worse!

—Puck.

Written for the RURAL WORLD.  
ROSES.

Early morning is the best time to im-  
bibe the full beauty of the roses before  
the sun has a chance to drink the dew  
from its leaves. Of course, only our  
monthlies are in bloom at this season of  
the year. I have just been out visiting  
them—one rose is a very double sweet-  
scented, cream-colored one; another is  
sea-shell pink. It has the same per-  
fume as crab apple blossoms. If you pin  
one of these on your dress front while  
you go about your work—be the work  
ever so worrisome, and you get a scent  
that gives a sense of gladness will come  
over you that you can hardly analyze.  
Another has a deep pink, and another a  
very delicate pink. The Paul Neron  
seems so fresh and full of life, and can  
stand the sun's rays much better than  
the rest.

"When the beauty who reigned 'mongst  
courtiers,  
Has long since been under the sod,  
The petals and leaves of the roses,  
Will still wait their fragrance to God,"  
Barry Co., Mo. PEARL M.

"WHAT MAY THEY BE?"

Finnian haddy is simply haddock smoked  
and dried, and receives its name from  
Finland, in Scotland where the fish is  
found and cured to perfection.

A ragout is a stew highly flavored with  
wine.

First there is the king of all stews, the  
plain Irish stew, of mutton and Irish po-  
tatoes, that can never be too much stewed.

Another form of this is a haricot of  
mutton, only in this both kinds of  
vegetables are used, and meat and  
vegetables are cut into very small  
pieces.

A salmi is a stew of game and a chow-  
der is one of fish.

A pot pie is a stew of any kind of  
meat, with dough balls, and braising is  
a form of stewing done in a covered pan  
in the oven, while in a fricassee the  
meat is browned either before or after  
stewing.

A hopping jonney is a stew of meat  
and rice and may be cooked to perfec-  
tion in the south, while indeed there is  
nothing can equal a gypsy stew, made  
of a little bit of everything, flavored with  
herbs and cooked for a day and a night,  
as the saying goes.—Exchange.

THE DELINEATOR.—The general run  
of fashion plates are the despair of those  
women whose nature has decreed for  
stoutness, or whom time has snowed with  
gray hair. Many fashion cuts show an  
impossible slyph-like form of women  
everlastingly youthful. "The Delineator,"  
whose long career of success shows that  
it meets the needs of women, contains in  
the September number a special article,  
carefully illustrated and devoted to the  
attire of stout and elderly women. This  
article, with its practical, useful advice  
about fabrics and quantities, will be ap-  
preciated by those who are neither slim  
nor under twenty-one.

Whitewashing the nests, inside and out,  
is a good means of keeping them free  
from vermin.

Sewing as a business is an exacting and  
exhausting occupation. Long hours, fine  
work, poor light, unhealthy atmosphere—  
these are the various kinds of things  
which fret the nerves and hurt the gen-  
eral health. Often there is a diseased  
condition of the womanly organism  
which causes backache or headache and  
the working of the sewing machine  
under such conditions is akin to torture.

women who work  
have written grate-  
ful letters to Dr.  
R. V. Pierce, whose  
"Favorite Prescrip-  
tion" has cured  
their womanly ills  
and established  
their general  
health. "Favorite  
Prescription" es-  
tablishes regular-  
ity, dries up  
healthy and offen-  
sive drains, heals  
inflammation and  
ulceration, and  
cures female weak-  
ness. It makes  
weak women  
strong and sick  
women well.

Sick women are invited to consult Dr.  
Pierce by letter free, and so avoid the  
indefinite questionings, offensive ex-  
aminations and obnoxious local treat-  
ments deemed necessary by some physi-  
cians. All correspondence private. Ad-  
dress Dr. R. V. Pierce, Buffalo, N. Y.

"I take great pleasure in recommending Dr.  
Pierce's Favorite Prescription for female weak-  
ness," writes Mrs. Susannah Permenter, of  
Paulsboro, Shelby Co., Texas. "I was troubled  
with bearing-down pains in my back and hips  
for six years, and wrote to Dr. Pierce for advice.  
I tried his 'Favorite Prescription' and six  
cures cured me. I feel like a new person and  
I thank Dr. Pierce for my health. Life is a  
burden to any one without health. I have told  
thousands of my friends about the great  
medicine I took."

Dr. Pierce's Common Sense Medical  
Adviser, in paper covers, is sent free on  
receipt of 21 one-cent stamps to pay  
expense of mailing only. Address Dr.  
R. V. Pierce, Buffalo, N. Y.



GROVE HILL TROPHY.

The Principal Prize at Tenth Annual  
Show of the Mo. State Poultry Asso-  
ciation.

The tenth annual show of the Mo. State  
Poultry Association will take place in the  
Town Hall, Chillicothe, Mo., Dec. 9 to 13,  
1901. W. S. Russell and F. H. Shella-  
berger, Judges. The breeders of Barred  
Plymouth Rocks will have the greatest  
opportunity ever offered in the West to  
make a record and the successful one will  
certainly have something to "blow  
about."

Mr. Wm. Ellery Bright of Waltham,  
Mass., the well known breeder of Barred  
Plymouth Rocks, and S. C. Brown Leg-  
horns, has offered a silver cup, made to  
order, undoubtedly the finest cup ever  
offered at any poultry show in the West.  
It is silver, gold lined and stands 18  
inches high, and is valued at \$75. It is

## Poultry

POULTRY AT THE MO. STATE FAIR.

About 1,000 birds were on exhibition  
and of excellent quality for the time of  
the year. The following were the exhibitors:  
Meadow Glen Poultry Yards, White  
Water, Wis.; J. M. Doty & Son, Charle-  
sville, Ill.; J. W. Wale, Harrisonville, Mo.;  
H. F. Hawkins, Pleasant Hill, Mo.; J. F.  
Harlan, Grand Center, Mo.; G. E. Tipper,  
Lee's Summit, Mo.; A. B. Ludwick,  
Butler, Mo.; H. J. Miller, California, Mo.;  
Roler Bros., Sedalia, Mo.; L. A. Asborn,  
Sedalia, Mo.; Rocky Hill Poultry Farm,  
McKittick, Mo.; Mrs. R. W. Tyne, Se-  
dalia, Mo.; N. R. Robinson, Fayette, Mo.;  
Herther & Snyder, Huntsville, Mo.; Wm.  
Johmeyer, Bonville, Mo.; E. R. Blair,  
Sedalia, Mo.; J. B. House, Sedalia, Mo.;  
M. T. Bouldin, Sedalia, Mo.; W. H.  
Ritchey, Sedalia, Mo.; Hallwood Stock  
Farm, Carthage, Mo.; W. W. Graves,  
Butler, Mo.; W. E. Bowersock, Sedalia,  
Mo.; R. F. Coates, Sedalia, Mo.; R. Al-  
len, Sedalia, Mo.

THE SURE HATCH EXHIBIT.

At the Missouri State Fair.

An exhibit at the State Fair that is  
attracting universal attention, and  
around which the crowds linger longer  
than at any of the others, is the chicken  
hatchery of the Sure Hatch Incubator Co.,  
located in a tent next to the poultry  
exhibit. Hundreds stand and watch the  
little chicks pick their way out of their  
shells and begin life without the care  
of a natural mother, for which it would  
seem they have no need, for they come  
into existence and pick up the thread of  
life with an energy and vigor very sel-  
dom found among chickens hatched in the  
ordinary way. The incubator used is re-  
sponsible for these results, and the Sure  
Hatch Incubator is the kind that never  
fails.

A careful examination of these ma-  
chines shows that they are built on sci-  
entific principles and are placed at the  
broods hatched demonstrate the fact  
that the words "Sure Hatch," used as a  
name, are most appropriate, as they sure  
do hatch the eggs. These incubators  
are made at Clay Center, Neb., by the  
Sure Hatch Incubator Co., who have a  
branch house at Columbus, Ohio, and  
poultry raisers will do well to write them  
for new catalogue, showing all differ-  
ent styles of machines made. Their incu-  
bators are made right, guaranteed  
for ten years, and the prices are so low  
that anyone can purchase without feel-  
ing the expense. Fair visitors who have  
not as yet seen this exhibit should not  
fail to look it up before returning home.  
—Sedalia (Mo.) Democrat.

CURE FOR TURKEY DISEASE.

I have read the description of the dis-  
ease of the turkeys belonging to Maggie  
Bansch of Grundy County, Iowa; also  
the rather severe remedy given by F.  
V. Chapman. For several years I have  
been raising turkeys, not extensively,  
about forty or fifty each year, and I  
find this disease peculiar to them, es-  
pecially just at this season, when they  
are more than half grown, says a cor-  
respondent in the "Prairie Farmer." Each  
year I have a few cases, but never lose  
one. This year have cured four cases and  
have one on hand now. My remedy is  
as follows: Keep on hand a package of  
good condition powders. There are many  
good kinds and they all contain about  
the same drugs. Take one teaspoonful  
of the powder in a few spoonful of  
water, mix well and give it to the sick  
turkey; now feed him well (by force)  
with a little bread mixed with a raw  
egg. This dose generally cures, but as a  
precaution put him in a coop and watch

GOBLER HATCHES CHICKENS.

Reagan, Falls County, Tex., Sept. 14.—  
Mr. R. A. Marlin, a farmer of this vic-  
inity, has something unique in the way  
of a curiosity. It is a 3-year-old turkey  
gobbler, who has "hatched out" and was  
playing the mother in regulation hen  
style to 14 little chickens. Mr. Marlin  
states that some weeks ago he missed  
this gobbler from his bunch of turkeys,  
and after a search found him sitting on  
an empty nest in the field. Observing  
that his gobblership exhibited a laudable  
desire to "hatch" something, he filled the  
nest with hens' eggs and left him to his  
own devices. In due course of time he  
"came off" with 14 little chickens, and as  
deeply interested in their welfare as any  
old hen could possibly be. He takes the  
greatest care of them throughout the  
day and carefully hovers them under his  
wings at night; in short, seems sincerely  
desirous of bringing them up in the way  
all little chickens should go. This is no  
fake, for the gobbler and little chickens  
are here to show for themselves. The  
incident only tends to prove the great and  
unlimited possibilities of central Texas.

BETTER POULTRY FOR THE FARM.

While attending the fairs we could not  
help noticing the glaring ignorance on  
the part of many visitors in regard to  
what it takes to raise a pure-bred  
fowl. There certainly is room for much  
improvement in this direction, writes F.  
J. Marshall in "Southern Cultivator."  
You may converse with any of them upon  
the different breeds of cattle, sheep or  
hogs, and they are perfectly familiar and  
can tell you their good qualities and their  
weak points. But when it comes to  
chickens, they are in the dark. They will  
go



## Pain-Killer

Cures Coughs, Colds, Sore Throat, Croup, Diphtheria, Rheumatism and all Winter complaints. It

## Kills Pain, Internal or External.

There are many kinds of pain, but there is only one Pain-Killer. Keep it by you. Beware of imitations. Buy only the genuine—Ferry Davis. Sold Everywhere. 25c & 50c per bottle.

## FOR SALE

26 registered Shropshire hogs from one to three years old, mostly yearlings; 20 buck lambs; would sell 48 registered ewes; reduction made on five or more to one buyer. Low down. Address

H. C. TAYLOR, Keping, Saline Co., Mo.

## WORMS KILL YOUR SHEEP

Why not remove the worms and save your sheep and lamb?

**EXCELSIOR WORM POWDER**, will do this and save you many dollars' worth of stock. Price 75c per 50 lb. bag. Write for agent. Send for our new booklet, it contains much valuable information.

BLAKE SHOPS, BOX 8, Galesburg, Michigan

## SHROPSHIRE RAMS.

all yearlings, for sale; also my stud ram for sale or trade for one as good.

Address L. G. JONES, Towanda, Ill.

## COTSWOLD SHEEP FOR SALE

Bucks and ewes, home and Canada bred; all registered and for sale at reasonable prices. Write, no trouble to answer.

H. D. BURRASS, R. F. D. 2, Carrollton, Illinois

## MERINOS—American and Delaine.

Greatest World's Fair Winners. Best all purpose sheep. Greatest wool producers. I keep the best. 100 extra rams for sale. Also Top Jerseys.

L. E. SHATTUCK, Shelbyville, Mo.

## Shropshire Yearling Rams and Poland-Chinas.

Either sex. Individual merit and choice breeding my motto. Stock sold worth the money. Call on or address

C. A. McCUE, Ash Grove, Mo.

## HAMPSHIRE SHEEP

Oldest flock in the state. Pure bred. All registered. All purpose sheep. Write for a bargain. Address JAMES TURNER, Box 144, Shelbyville, Mo.

## PRIZE WINNING CHESTER WHITES

of both sexes, and all ages, bred and for sale by

J. M. KETCHAM & SONS, LOVE LAKE, MO.

## IMPROVED CHESTER WHITES

all ages, both sexes for sale. List price \$4.00 each. State show as well as four other prizes, call on or write

H. RAUSCHER & SON, ASHTON, MO.

## FOR SALE

Good Bargain 50 to 100 Angora Goat Nannies. MUNSON, F. W., Lebanon, Mo.

## BERKSHIRES.

LARGE ENGLISH BERKSHIRES—\$8.00 buys a pig of either sex, both sex of fall farrow to offer the trade. They are perfect cost and color, bred by U. S. Chickens and Eggs, B. U. S. breeding. Eggs for setting from best strains of B. U. S. chickens; also bred herefrom cattle. Prices reasonable.

L. A. SPIES BREEDING CO., St. Jacob, Illinois

## POLAND-CHINAS.

POLAND CHINAS—We have some extra fancy pigs of this breed, and some fancy pigs of both sex of fall farrow to offer the trade. They are perfect cost and color, bred by U. S. Chickens and Eggs, B. U. S. breeding. Eggs for setting from best strains of B. U. S. chickens; also bred herefrom cattle. Prices reasonable.

L. A. SPIES BREEDING CO., St. Jacob, Illinois

## VIVION & ALEXANDER,

Breeders of the best strains of Poland-China hogs. Registered Jersey cattle and Plymouth Rock chickens. Young stock for sale all times.

## FOR SALE

A nice lot of fall pigs, bred by Misses Black U. S. 13, 17, 18, and C. Perfection. Dams are Look Me Over and B. U. S. breeding. Eggs for setting from best strains of B. U. S. chickens; also bred herefrom cattle. Prices reasonable.

Huntville, Randolph Co., Mo.

## POLAND-CHINAS.

Growth, heavy-boned, March and April farrow, and out of gilt-edged dams; also Angus calves. J. E. VESSELY, Box 13, Merrillville, Illinois (Near St. Louis).

## WALNUT VALLEY FARM HERD

of Poland-China hogs. Spring farrow, \$10.00 each. Leading strains. Customers are cordially invited to inspect stock before buying.

ERNEST W. WALKER, Mott, Mo.

## POLAND-CHINAS.

Gilt-edged pedigree. All registered. All purpose. Write for a bargain. B. L. OBGAN, Carmi, White Co., Ill.

## DUROC-JERSEYS.

## DUROC-JERSEYS and W. P. ROCKS.

Choice young stock for sale. Address, R. S. THOMAS, R. F. D. No. 4, Carthage, Mo.

## BIG & HEEDS

Duroc-Jersey and Chester White hogs. Top individuals. No screenings. Write for list of prices.

J. H. HAYNES, Ames, Ill.

## Duroc-Jersey and Berkshire Hogs.

A few gilts and male hogs for sale at reasonable prices. Lewis W. Hazzman, East Alton, Ill.

The normal condition of animals is more or less affected by the changes of the temperature and results from the same feeding are varied.

## CHOICE POLAND-CHINA SPRING PIGS

by simply O. K., 1st prize yearling boar Mo. State Fair '01. and other great boars. Write your wants and come and see them.

JOHN L. CLARK, Bolivar Mo.

## ANGORA GOATS FOR SALE!

I have about 800 recorded, high class and medium class does and a few old fashioned goats that I will sell at a reasonable price. I am in a position to fill any orders satisfactorily from any standpoint. Address W. T. MCINTIRE, Agent, Kansas City Stock Yards, Kansas City, Mo.

## FINE BERKSHIRES

Of the best families at farmers' prices. Write for what you want, or, what is better, come and inspect the stock.

W. H. KER, Prairie du Rocher, Ill.

## Cedar Lawn,

E. H. Rodgers, Proprietor.

Breeder of registered Shropshire Hogs, Poland China Hogs and Shorthorn Cattle. Also Mammoth Bunches and Barred Rock Chickens.

## The Pig Pen

### DUROC-JERSEY HOGS.

At the Missouri State Fair.

McFarland Bros., Beaman, Mo., won the first premium on aged boars.

On boars under six months the first premium was won by Harry Sneed, Smithton, Mo., and the second by McFarland Bros.

On aged sows—Harry Sneed got the first premium.

Sows six months and under twelve—First premium to McFarland Bros., and second to Harry Sneed.

Boar and three sows over one year—First to Harry Sneed, and second to McFarland Bros.

Four piglets produce of one sow—First premium to Harry Sneed.

Four head, get of one sire—First premium to Harry Sneed.

Sweepstakes boar and sow were both shown by Harry Sneed. F. M. Lall was the judge.

### MAY EVOLVE A NEW HOG.

It has been a common opinion among stock feeders that the profitable hog can be produced only in the corn-growing

country, writes E. E. Elliott of Washington. While it will probably be true that the greatest amount of our pork products will come out of the corn belt we are assured that Washington will in the near future supply its own requirements for pork, and even become a shipper to other markets.

It has been demonstrated time and again that barley stands a close second to corn as a swine food and wheat will bring far above the present prices when fed in this way. With both these cereals and many others in abundance and other advantages there is every reason to hope for the extension of the production of swine. This may require some modifications of the type of hog needed for our own foods as well as markets, but if experience proves that the existing breeds which have made their reputations in corn-growing states are not adapted to our small-grain products, we feel assured that others can be found to take their place. In other words, we propose to supply our own demand for pork, even if we are compelled to evolve a new hog to do this.

The farmers of Washington who are making money are those who are combining stock-raising with their other operations. Dairying and haying, grain growing and cattle and sheep and even our orchards lend themselves to profitable pork production. The staple and most intelligent system of agriculture is that which recognizes and combines all these and makes them work together in mutual interest.

### WHY I BREED BERKSHIRES.

The Berkshire is admitted to be the oldest breed of swine in the United States if not in the world, and has been bred pure for nearly 150 years. They have been used in improving most of the improved breeds of to-day that have a black color. They are a hardy, vigorous breed and will stand any climate where swine are grown. Being bred pure for so many years they naturally impress their quality on any breed on which they are crossed, says a correspondent in "Breeder's Gazette."

The Berkshire is a very prolific breed and the sows are the best of mothers. Only the past week three or four sows farrowed as follows: One had twelve pigs, one thirteen and another twelve.

The best sow did not move from the time she commenced to farrow till after she was all through. This was about six o'clock in the evening, and the next morning at seven she was lying just as she was when we left her the night before, and I do not think she had turned over or gotten up during the whole night.

Her whole twelve pigs were all alive and smart as could be in the morning. We are not claiming this as anything uncommon, but it is one of the peculiarities of the Berkshire, that they almost universally raise good-sized litters and raise them well.

There is no breed of swine that will give a greater flow of milk. I watched a sow that is suckling twelve pigs this morning at the trough eating, and the milk flowed from her udder as she stood still at the feed. The Berkshire sow is very careful of her litter and will let herself down in the bed as carefully as she can do so, seldom hurting a pig. They are quiet and can be handled at farrowing time without their getting excited in the least.

Three pigs come strong and active if the sows have been properly fed and handled. The pigs of our last litter farrowed were so strong that they never got off their feet till they reached the teat, and then were fighting for something to eat. This shows vitality and energy, and a pig of this kind will not have to be taken from the sow and put back every hour for its dinner, but will look after that matter itself. The Berkshire is not excelled by any breed in its grunting qualities. They are active and yet not wild in any manner.

Cattle feeders will tell you that for pigs to follow cattle they are far the best, for the reason that if a steer touches one of them he will move at once and not get trampled on. He is a pig that is always ready for the market at any age from four months up, and if you wish to carry them on to the age of one year they will outweigh anything of their age or measurements. Stock buyers tell me that they

will never guess on the weight of a bunch of well-finished Berkshires, as they invariably outweigh their expectations. There is also a uniformity in appearance of a well bred herd of Berkshires that is very pleasing.

The demand for the Berkshire is increasing in such a degree that the breeders cannot begin to fill all the orders that come to them. While the breeders of other breeds have been trying to see how refined they could get their hogs, the breeders of Berkshires have taken a different tack and have been looking out for all the size and length possible without sacrificing quality and finish. We have now got them fully twelve inches longer than the Poland-China, and yet do not let the back sag, but keep it full, wide and strong. The feet have been improved much in the last few years, the flank is lower, the hind legs much straighter. We have not got them perfect by any means yet, but as a general thing they are constantly being bred more nearly right, and are, taken all in all, grand hogs, admired by anyone that likes to see symmetry in an animal and a blood-like appearance. These are some of the reasons why we breed Berkshires, and for these we will continue to breed them as long as we breed anything in the swine line, believing that a test of twenty-six years is long enough to prove that we have made a wise selection.

THE FEED PROBLEM.

The damage to the corn crop the present season is the greatest that has taken place for a good many years. This has forced an advance in the price of corn that is causing a good many questions to be asked regarding substitutes, as well as the profit in feeding corn at the present prices, says "American Swineherd."

One thing favorable to feeding corn at these high prices is the fact that pork prices are equally high. A few years ago, with a failure of the corn crop and high prices of corn, feeders were confronted with the problem of feeding high-priced corn to stock, converting it into low-priced meat. Fortunately, this feature does not now present itself, thus rendering the feed question quite complicated.

The amount of corn that will be produced by the 1901 crop is not yet settled. We believe that the worst reports of injury were in the August 10 government report, and that there has been an improvement, to a certain extent, since that time, in the West, and a deterioration in Southern Illinois, Indiana, and Ohio; but, on the whole, an improvement is noted.

It is a difficult thing for farmers to accustom themselves to feeding wheat. A few farmers will do it, where it will be profitable to do so, by comparing the local prices of corn and wheat. Wheat having been so long regarded as exclusively for human food, it is not easy to induce the great body of farmers to use it directly as a feed for animals. Although the by-product of it has become recognized as one of the most valuable feeds, especially for growing animals.

With present prices of pork and present prices of corn, good feeders will get even higher prices than the market by feeding it to hogs.

The crop, as well as the price, will be carefully watched and duly noted, so that the best information for feeders can be given, comparing price of feed with price of pork.

The feeders throughout the country will economize in feeding corn to an extent that will make a large aggregate saving. While the damage is very large, the crop is estimated to be thirteen hundred million bushels to which can be added four or five hundred million bushels of old corn. At these prices but little corn is going out of the country. With the new crop and balance of old crop on hand, it will be seen that there will not be a corn famine. There will be the largest amount of corn-fodder cut up, harvested and shredded that has ever been garnered by the farmers, and the lesson that will be learned from this compulsory economy will be a valuable one to the farmers of this country.

PIGGIE'S TROUBLES.—The Zenner Disinfectant Company, Detroit, Mich., has issued a booklet entitled, "Piggie's Troubles," and their treatment from a scientific standpoint, that will be found very useful by hog raisers who want to overcome the many forms of disease among swine. The causes and symptoms of these diseases are stated briefly and methods of treatment given. Of course zenoleum, which is made by the Zenner Disinfectant Company, is set forth prominently as a curative agent, but the claims for its efficiency are well substantiated. Such authorities as Dr. A. L. Peters, State Veterinarian of Nebraska; Dr. W. B. Yates, State Veterinarian of Indiana; and numerous representatives of agricultural experiment stations in different parts of the country testify to the value of zenoleum as a disinfectant and preventive and cure of hog diseases. It will be well while for our readers to send for a copy of "Piggie's Troubles," which will be sent gratuitously.

So far as can be done arrange the hog troughs so that the hogs cannot get their feet in them.

All stock will thrive better and grow faster if they are not compelled to carry a heavy load of fat.



Simply O. K. 24290, pictured above, was the first prize winner in his class at the Missouri State Fair. He is acknowledged to be the best boar ever sired by the great herd of Poland-China hogs owned by John L. Clark, Bolivar, Polk county, Mo. Mr. Clark's advertisement will be found in another column.

THE HOG THE FARMER'S FRIEND.

He is the greatest economizer of food and makes the cheapest meat obtainable by the customer. He is, therefore, a friend of the consumer as well as the farmer.

Prof. J. W. Sanborn states that from 100 pounds of dry food, that 9 pounds of live steer, 11 pounds of live sheep and nearly 24 pounds of live hog are produced, or 24 per cent more pig than steer from a given amount of food, though hogs consume more costly food than either sheep or steers.

This astonishing growing power of the pig is due to the greater amount of food consumed and the all devouring appetite of the pig.

He found the pig consumed 3 per cent to 7 per cent of his live weight daily, while the steer made from 2 per cent to 2 1/4 per cent, or about little over one-half as much as the pig. In other words, the pig has power to eat, to digest and to assimilate food to a greater extent than any other animal on the farm. The internal construction of the hog is built for this purpose differently from the steer.

Going further, he found that the pig gives a larger ratio of dressed carcass than does the steer in proportion to live weight, giving 32 per cent of dressed carcass to 65 per cent in the steer, or 50 per cent with the hide and tallow free.

Still pressing the claims of the hog over the steer to their legitimate issue, he finds that 100 pounds of food from the data given produced 7.39 pounds of clear water and bone free meat in the pig, and 47 pounds of beef for consumption, or the pig produces 4.2 per cent times more food material than the steer from 100 pounds of food.

The producer sells the pig fat for market at as high a price as the best of the much larger growth and gain per 100 pounds of food, and the early maturity of the pig not being required to pass through one or two costly winters of little growth, all of which shows the greater advantage of the hog vs. the steer.

The hog has been improved in the last twenty years to such an extent that he is able to mature earlier, to assimilate greater, and produce a larger amount of gain and growth from the same quantity of food.

The improved pig shows the great feeding capabilities and earlier maturing qualities that have been bred into them. No time is lost. They can be marketed as quickly as a crop of grain. The pig should be kept growing continually. It requires a certain amount of food for maintenance. If there is no growth and no gain this maintenance cost is actual loss.

About 25 to 30 years ago good hogs were marketed usually at 18 to 24 months of age, and the general average of weights were not more than are made now at 8 to 10 months, showing the great improvement in the present methods, and the great loss of feed by the old plan of long maturing.

The hog is the best marketer of grain and grass that the farmer has. He brings it quicker and at greater profit for the food consumed than any other animal, while his meat is the cheapest that can be produced for the consumer, when the economy in the cured product is taken into consideration.—Prairie Farmer.

SOAKING CORN FOR SWINE.

In Bulletin 59 the West Virginia Experiment Station reports on its experiments in soaking corn for hogs. Nearly all the pork which is produced in the United States is derived from corn-fed hogs, yet very few experiments have ever been performed to determine the best and most economical way of feeding corn.

The following experiment was planned to determine whether soaking corn in water affects in any way its food value. Poland-China-Duroc-Jersey and Poland-China-Berkshire cross-bred pigs were used in the experiment. They were divided into two lots similar in respect to size, breed and sex. From a carload of western corn sufficient was procured for the experiment.

A portion of this was ground into meal, and the remaining shelled corn was soaked in water, as needed, until the grains were soft. The meal was mixed with water before being fed. No attempt was made to feed the same quantities of meal and soaked corn, but each lot was fed with all that it would eat up clean.

The lot fed on soaked corn consumed 21.35 pounds of corn and gained in weight 55 pounds. For 100 pounds in live weight they consequently required 35 pounds of corn. The lot fed on cornmeal required 40 pounds of meal for 100 pounds gain, therefore the soaked corn produced the more economical gain, to say nothing about the extra expense of grinding the corn.

As few experiments have ever been performed to determine the effect of soaking grain upon its digestibility, the subject requires further study. The result of this experiment indicates that it is good practice.

The evenness and regularity of feeding mark the degree of success in putting hogs for market.

If there is any coarseness on either side let it be on the side of the sow rather than the boar.

## The Shepherd

### SHEEP AT THE MO. STATE FAIR.

An excellent lot of sheep was shown at the recent Missouri State Fair, though the number was small. Awards were as follows:

COTSWOLDS—Aged rams, first premium to Geo. Harding & Son, Waukegan, Wis.; second to Lewis Bros., Camp Point, Ill.

Yearling ram, first to Geo. Harding & Son; second to Lewis Bros.

Lamb—Lewis Bros., first; Geo. Harding & Son, second.

Two-year-old ewes—Geo. Harding & Son, first; Lewis Bros., second.

Yearling ewes—Geo. Harding & Son, first; Lewis Bros., second.

Ewe Lamb—Geo. Harding & Son, first; Lewis Bros., second.

Flock, home-bred—Lewis Bros., first.

Four lambs—Lewis Bros., first.

Sweepstakes ram—Geo. Harding & Son.

Sweepstakes ewe—Geo. Harding & Son.

LEICESTERS AND LINCOLNS—Aged ram, H. Hanson, Oshkosh, Wis., first; Lewis Bros., second.

Yearling ram—H. Hanson, first; Lewis Bros., second.

Lamb—H. Hanson, first and second.

Aged ewe—H. Hanson, first; Lewis Bros., second.

Ewe lamb—H. Hanson, first; Lewis Bros., second.

Flock—H. Hanson, first.

Pen of four lambs—H. Hanson, first.

Sweepstakes ram—H. Hanson.

Sweepstakes ewe—H. Hanson.

SOUTHDOWNS—Geo. McKerrrow, Sussex, Wis., was awarded all the prizes.

OXFORD DOWNS—Geo. McKerrrow was awarded all the prizes excepting second on ram lamb, which went to C. E. Here-mann, Bristol, Mo.

AMERICAN MERINOS—Dorsey Bros., Perry, Ill., were awarded all the prizes.

FRENCH MERINOS—Geo. Harding & Son were awarded all the prizes.

### THE PAN-AMERICAN SHEEP SHOW.

Editor RURAL WORLD: The sheep show at the Exposition commencing on September 23 will immediately follow the exhibition of cattle. Superintendent Converse has arranged a sheep classification that is broad enough to cover every variety that is bred in this country or Canada. The number of entries will show the interest that sheep men of the two countries are taking in this very important show. The classification covers 17 distinct sections. It is more complete in Merinos than any other, because this is recognized as being the only distinctly American breed as to origin. Especial attention is therefore given to them, and because of this the class has been divided into two sections, known as class "A," which is bred for constitution, form, covering and weight of fleece; class "B," bred for constitution, form, covering, density and fineness of fleece; the same types of Merinos as commonly bred in America. Aside from this classification for Merinos, recognition has been given to Delaine, Dickinson or Black Top Merinos; also Rambouillet.

The Pan-American is one of the few shows that has recognized such a broad classification as is here provided for sheep. Nearly all the Eastern States, the Middle States, and a few of the Western States, are sending exhibits to this show. About 100 live sheep from the pasture lands of the great Canadian Northwest will form one feature that will be of more than ordinary interest. Representative sheep of the many different classes to the number of 700 animals will be here congregated. The following is a list of the exhibitors in the different classes:

COTSWOLD: A. J. Watson, Castle de cote, Ont.; W. H. Newton, Pontiac, Mich.; Wilson Brothers, Muncie, Ind.; Geo. Harding & Son, Waukegan, Wis.

LEICESTER—W. H. Newton, Pontiac, Mich.; A. & W. Whitelaw, Guelph, Ont.; J. M. Gardhouse, Highfield, Ont.; A. W. Smith, Maple Lodge, Ont.; George B. Armstrong, Teeswater, Ont.; John Kelly, Shakespear, Ont.

LINCOLN—A. Bordwell & Son, Fargo, N. Y.; John T. Gibson, Denfield, Ont.; J. H. Patrick, Ilderton, Ont.; Eugene Patrick, Ilderton, Ont.

SOUTHDOWN—John Jackson & Sons, Abington, Ont.; Laffer Brothers, Paris, Ont.; George Allen, Allerton, Ill.; William Empe, Ninaville, N. Y.; W. V. Hamilton, Caledonia, N. Y.; Robert McKerrrow, Byron, Ont.

SHROPSHIRE—George Allen, Allerton, Ill.; D. G. & J. G. Haumer, McBernon, Ont.; Richard Gibson, Delaware, Ont.; John Campbell, Woodville, Ont.; George B. Phil, Mespeler, Ont.; L. D. Rumsey, Jr., Lewiston, N. Y.; Brown Brothers, Yatesville, N. Y.; Howard Davison, Hill brook, N. Y.; H. Calvin Williams (Folly Farm), Abington, Pa.

OXFORD DOWN—J. H. Hull & Son, Mt. Vernon, Ont.; R. J. Stone, Stonington, Ill.; George McKerrrow & Son, Sussex, Wis.; A. Bordwell & Son, Fargo, N. Y.; W. H. Newton, Pontiac, Mich.

HAMPSHIRE—John Kelly, Shakespear, Ont.; F. Milton, Marshall, Mich.

MERINO: A. H. B. Wheeler & Son, Yatesville, N. Y.; F. B. Gorham, West Rutland, Vt.; Davis Cessitt, Onondaga, N. Y.; H. E. Moore, Orchard Lake, Mich.; P. B. Norton, Vergennes, Vt.; D. N. Bell, East Shoreham, Vt.; David K. Blais, Middlebury, Vt.; Peter Martin, Rush, N. Y.; Ira J. Hamblin, Middlebury, Vt.; J. M. Flanagan, Niles, Ohio; R. D. Williams, Xenia, Ohio; R. D. Williams, Xenia, Ohio; E. N. Hiseell, East Shoreham, Vt.; David K. Bell, West Brighton, N. Y.; C. A



